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ABSTRACT

Representing the first Utah postsecondary vocational master plan, the report focuses on: (1) program flexibility, (2) designing new delivery systems, (3) provision of adequate facilities, and (4) securing financial support to meet changing student, State, and industrial needs. Following an introductory section, Section 2 summarizes the status of Utah students in regard to abilities, student college choices, programing scope, State manpower needs, and postsecondary enrollment patterns. Section 3 reviews the general governance of vocational-technical education in regard to curriculum, programs, and role assignments throughout the State. Section 4 further clarifies curriculum and roles as related to State manpower demands, program costs, program viability, Office of Education code designations, and manpower findings. Section 5 is directed toward vocational-technical faculty in higher education and discusses institutional and faculty flexibility, upgrading of faculty competencies, and articulation. The concluding section reviews enrollment and financial trends, funding for new programs, skills centers, new facilities planned, and energy and other resource development. Recommendations are stated for each section with target dates for the implementation of individual recommendations. Appendixes include lists of less than baccalaureate degree vocational-technical programs and program groupings according to Office of Education code designations. (EA)

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MASTER PLANNING FOR POSTSECONDARY EDUCATION IN UTAH

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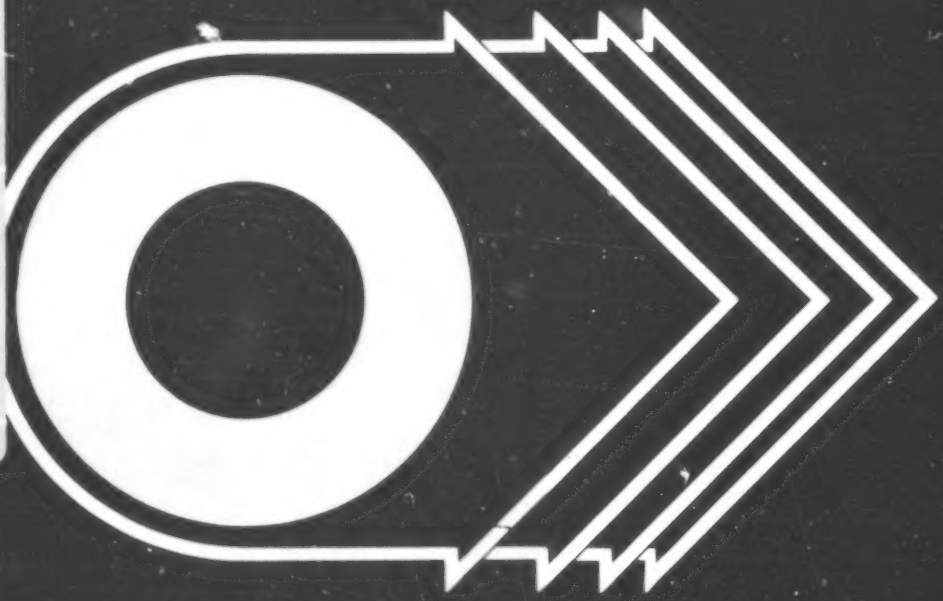

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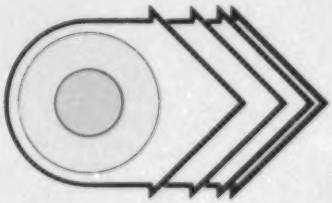
MASTER PLANNING FOR POSTSECONDARY EDUCATION IN UTAH

VOCATIONAL-TECHNICAL EDUCATION TASK FORCE REPORT AND RECOMMENDATIONS



Leon R. McCarrey, Chairman
Richard S. Prows, Vice-Chairman

Adopted by the Utah State Board of Regents
And Approved for Publication
May 20, 1975

Utah State Board of Regents
Office of the Commissioner of Higher Education
Salt Lake City, Utah

JUNE, 1975

FOREWORD

This report represents much effort, study, and deliberation by Regents, institutional officers, members of the Legislature, and Utah leaders in business, industry, labor, and education.

The report is essentially the work of the Vocational-Technical Education Task Force, chaired by Dr. Leon R. McCarrey, Associate Commissioner of Higher Education, and Director of Academic Affairs, in the Office of the Commissioner of Higher Education. Mr. Richard S. Prows, Salt Lake City area builder and land developer, served as Vice Chairman.

A draft of this document was presented for consideration and review by the Board of Regents in March, 1975, followed by additional review at its April, 1975, meeting. Subsequently, a statewide conference was convened on Friday, May 2, 1975, in Salt Lake City, meeting at the Rodeway Inn. At this conference, members of Institutional Councils, leading citizens from all parts of the State of Utah, student representatives, faculty, and educational leaders met to discuss the basic principles and assumptions outlined in a conference brochure. Following affirmation of the general outline and principles, the Regents authorized printing of the document at their monthly meeting in Logan held May 20, 1975. I commend it to all citizens interested in the future of vocational-technical education in Utah, at public, private, and proprietary institutions.

G. Homer Durham
Commissioner of Higher Education
and Chief Executive Officer
State Board of Regents

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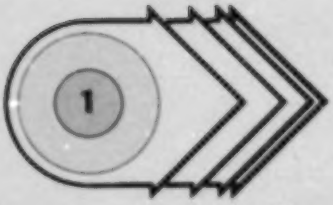

INTRODUCTION

NEED FOR THE STUDY

Seven years have passed since the Coordinating Council published the 1968 Utah Master Plan for Higher Education.[1] During the intervening years, vocational education in Utah has changed significantly. While the '68 Plan did address some of the more general issues in vocational education, it did not focus upon long-range planning or on analysis of problems and issues associated with vocational education. Thus, this report represents the first postsecondary vocational Master Plan. A concern of the 1968 Plan was "limited vocational education," while the major problems of the future appear to be: 1) program flexibility, 2) designing new systems of delivery, 3) provision of adequate facilities, and 4) securing financial support to meet changing student, state, and industrial needs.

Among those who lend enthusiastic support to vocational-technical education are:

1) The **Legislature** through legislation, including the 1969 Higher Education Act which created the Utah System of Higher Education;
2) the **Governor;**
3) The Utah **Advisory Council** for Vocational-Technical Education;
4) The Utah **Manpower Planning Council**; and
5) The **State Board of Regents** and the **Utah State Board for Vocational Education.**

Many factors contributed to the rise of vocational-technical education. At a time when enrollments in postsecondary institutions generally have leveled off and in some instances decreased, enrollments in vocational-technical programs have increased substantially. The majority of new educational programs (60 percent), considered and approved by the Board of Regents during the past three years, have been in vocational-technical education fields. The three two-year colleges in the state have evolved from "junior college" to community college status. The four-year institutions have displayed an increasing interest in areas of vocational-technical education.[2] Area vocational centers have further developed and expanded.[3] Both technical colleges have experienced great growth.

Clearly, master planning activities have occurred since 1968. The action taken monthly by both the Utah State Board of Regents and the Utah State Board for Vocational Education have impacted vocational education substantially. Change has also occurred through dynamic institutional leadership, increased legislative support, growing visibility of vocational-technical education, the approval of vocational-technical programs in a planned fashion, and through the review of programs by Regent-appointed ad hoc advisory study committees (business, teacher education, allied health, and engineering). Nevertheless, a formal Master Plan is the necessary next phase in providing new direction and focus.

DEFINITIONS OF VOCATIONAL-TECHNICAL EDUCATION

Definitions of vocational-technical education are difficult to formalize, and once stated, tend to be controversial. For example:

Utah's 1968 Master Plan for Higher Education defines these terms in the following fashion:

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[1] Utah, Coordinating Council of Higher Education, *Utah's Master Plan for Higher Education* (Salt Lake City: Utah Coordinating Council of Higher Education, 1968).

[2] Data on file in the Office of the Commissioner, in the Minutes of the Utah State Board of Regents, and in the Annual Reports of the Utah State Board of Regents to the Governor and the Legislature (1969-70 through 1973-74).

[3] Utah, Code Annotated, Section 53-16-5.1 (Replacement Volume 5B, 1973 Pocket Supplement).

Paraprofessional-technical training should prepare a person to earn a living in an occupation in which his success is largely dependent upon a knowledge of the laws of science and technology as applied to design, production, and service. Technical education should provide training for persons working between the skilled workman and the professional. It is a program that does not require a bachelor's degree at the two-year colleges. *However, several programs offer the bachelor's degree at the four-year institutions* (emphasis added.)

Vocational Education is planned to train individuals for employment as skilled or semi-skilled workmen. Highly specialized, it features practical work and the early acquisition of a skill.[4]

In contrast, the federal government restricts definitions of vocational-technical education to less-than-baccalaureate degree programs for funding purposes. Federal regulations state:

> The term 'vocational education' means vocational or technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic technical instruction incident thereto) under public supervision and control or under contract with a state board or local educational agency and is conducted as part of a program designed to prepare individuals for gainful employment as semi-skilled or skilled workers or technicians or subprofessionals in recognized occupations and in new and emerging occupations or to prepare individuals for enrollment in advanced technical education programs, *but excluding any program to prepare individuals for employment in occupations which the Commissioner determines and specifies by regulation, to be generally considered professional or which requires a baccalaureate or higher degree* (emphases added) . . . .[5]

The principal distinction between the two definitions of vocational-technical education is that the one utilized in *Utah's Master Plan for Higher Education* includes some *four-year programs* — principally at the *paraprofessional technical* level, while the federal definition does not. As in the 1968 Master Plan, it is assumed in this report "vocational-technical" refers to some four-year baccalaureate programs.[6] When specific reference is made to *vocational-technical programs of less than four years*, the programs will be referred to as "entry-level."

It is emphasized that such definitions are incomplete and controversial. The stipulative clause of the federal definition, in which the U.S. Commissioner of Education "defines" what programs are (or are not) vocational-technical education, eliminates the unresolved "gray" areas by fiat. Further refinement of these definitions by the Task Force appeared to be fruitless. Problems — such as the question of whether lower division accounting courses are vocational-technical or academic — would appear to be handled better by functional, stipulative definitions agreed upon by the various institutions and articulated by the Utah State Board of Regents.

SCOPE OF THIS REPORT

The additional definition of postsecondary occupational education is relevant in attempting to delimit the scope of this report. In accord with the Higher Education Amendments of 1972 (under which this "planning grant" study was authorized), this study focuses upon:

> *. . . education, training, or retraining (and including guidance, counseling, and placement services) for persons sixteen years of age or older who have graduated from or left elementary or secondary school, conducted by an institution legally authorized to provide postsecondary education within a state, which is designed to prepare individuals for gainful employment as semi-skilled or skilled workers or technicians or sub-professionals in recognized occupations (including new and emerging occupations), or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations which the Commissioner determines, and specifies by regulation, to be generally considered professional* (emphases added) . . . .[7]

---

[4] Utah, Coordinating Council of Higher Education, op. cit., pp. 78-79.

[5] U.S., Congress, Amendments to the Vocational Education Act of 1963, Public Law 90-576 (Washington, D.C.: October 16, 1968), pp. 6-7.

[6] U.S., Congress, *The Higher Education Amendments of 1972*, op. cit. Section 1060, p. 87.

[7] Ibid.

The above definition of "postsecondary occupational education" is merely a refinement of the federally defined term "vocational education" restricting the educational programs to *persons sixteen years of age or older, conducted by institutions legally authorized to provide postsecondary education.*[9] In view of the traditional use of the term "vocational-technical education" in Utah, this term will be utilized throughout this report.

TRENDS, GOALS AND PHILOSOPHY

Traditionally, postsecondary education has been expected to perform at least two roles: (1) to produce a broadly educated person who understands the world and one's relationship to that world, and (2) to prepare a person for life's work by providing a marketable skill. The former seeks to increase the quality of a person's intellectual, social, and emotional life, while the latter attempts to prepare an individual for a specific role in the economy. It is recognized that both roles have important and worthy objectives. Over the years a schism has developed as to the importance of these roles. This has created considerable controversy between opposing groups with differing philosophies.

At the national level, educational leaders have recently expressed differing viewpoints concerning the proper role of postsecondary education. T. H. Bell, U.S. Commissioner of Education, stated in January, 1975, that colleges and universities today must concentrate on offering students "salable skills." He stated, "the college that devotes itself totally and unequivocally to the liberal arts today is just kidding itself" and "to send young men and women into today's world armed only with Aristotle, Freud, and Hemingway is like sending a lamb into the lion's den. It is to delude them as well as ourselves."[10]

Conversely, Robert Goldwin, President Gerald Ford's White House liaison with the academic community, takes issue with Commissioner Bell. He stated:

> What skills are salable? Right now, skills for making automobiles are not highly salable, but they have been for decades and might be again soon. Skills in teaching are not now as salable as they were for the past 20 years, and the population charts indicate they may not be soon again. Home construction skills are another example of varying salability, as the job market fluctuates.
>
> The first difficulty, then, is that if you want to build a curriculum exclusively on what is salable, you will have to make the courses very short and change them very often in an attempt to keep up with the rapid changes in the job market . . . In very few things can we be sure of future salability and in a society where people are free to study what they want, and work where they want, and invest as they want, there is no way to keep supply and demand in labor in perfect accord.[11]

This controversy is not new. It surfaces and resurfaces both in national and local educational policy decisions, and in institutional philosophy and planning activities. Some institutions, particularly community colleges, have attempted to become comprehensive in philosophy and offerings, providing both college-parallel transfer programs (the "academic" role) and immediate job entry programs (the vocational-technical role). But the comprehensive college, whether four-year or two-year, is not without controversy. Faculty and disciplines of both camps are all too often suspicious of each other's motives.

The above viewpoints are highlighted in this report not to support one position or the other, but to recognize that differing philosophies exist. The Task Force recognizes and supports the position that one of the primary roles of education at any level should be the preparation of graduates for employment opportunities. It also recognizes the importance of other educational roles, such as the preparation of graduates to relate to the world and their position and function in it. The Task Force generally concurs with the following comment by Commissioner Bell:

> Education is preparation for life, and living without meaningful work is just not living life to its full meaning and purpose. Certainly education for employment does not represent a total educational policy. The liberal arts will always have the place as the heart of the

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[9] U.S., Congress, Amendments to the Vocational Education Act of 1963, loc. cit.

[10] "Should Colleges Teach Salable Skills?" *The Chronicle of Higher Education*, Volume X, Number 7 (April 7, 1975), p. 32.

[11] Ibid.

curriculum. But we need to liberalize vocational education and vocationalize liberal education. In the process, we will attain the full purpose of education."[11]

The Task Force believes there should be diversity among Utah institutions offering postsecondary education. Flexibility should be fostered so that institutions and agencies can respond promptly to changes in society, the economy, industry and technology, manpower demands, and student interests. The Task Force stresses the importance of vocational-technical training programs requiring less than the baccalaureate degree, since many employment openings do not require four-year degrees.

Not all students have the same interests, aspirations, and/or abilities. However, the Task Force is keenly aware that education is a lifelong process, that a person's interests, goals, and needs vary with time, and that today, and in the future, a person may be required to choose to change careers several times during a lifetime. Because the notion that education can be "completed" during some early phase of life has been refuted, the Task Force is opposed to arbitrary barriers, especially by educational agencies, which may retard the educational aspirations of people.

4

The Cone of Lifelong Learning, Figure 1, graphically describes a philosophy for planning and developing programs and delivery systems. As can be seen on the right-hand side of the cone, career awareness, exploration, and development are lifelong processes believed essential to man's purpose and fulfillment, just as are avocational and "whole-man" (general education and "skills for living") pursuits. Since mid-career retraining programs may be needed throughout the working years, and because personal enrichment, hobbies, and other educational interest become important after economic security is attained, the Task Force believes Utah postsecondary educational institutions should facilitate easy entrance and exit into and out of educational programs. As recommended by the Carnegie Commission on Higher Education, such programming would encourage students to leave the educational system at convenient "exit-levels" knowing that future reentry would be possible, if desired or required.[12]

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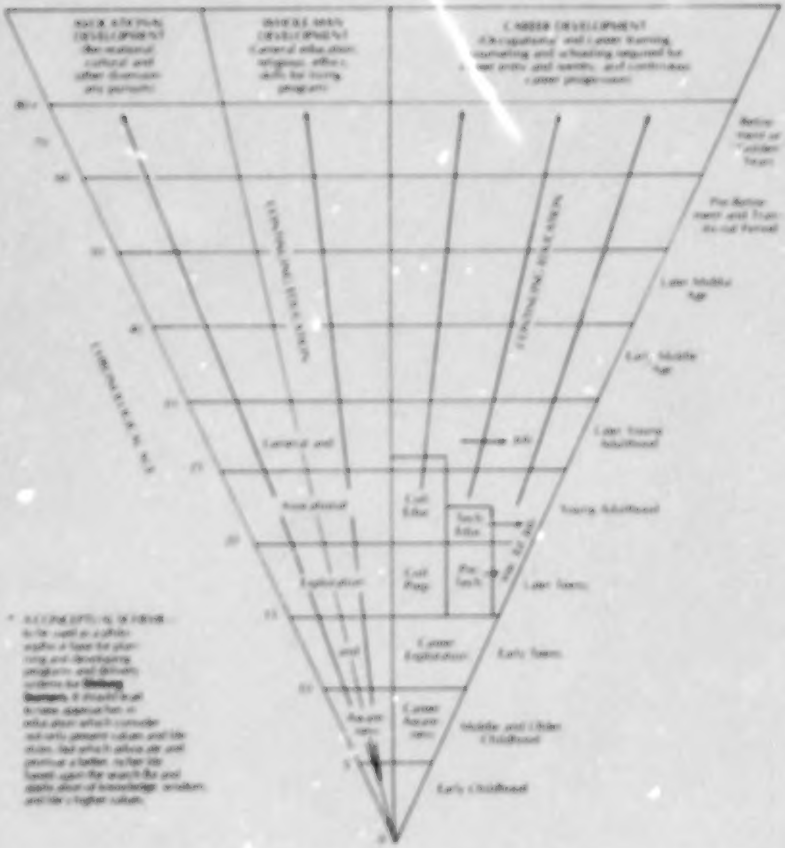
[11] Ibid.

[12] The Carnegie Commission on Higher Education, *Less Time, More Options – Education Beyond the High School* (Hightstown, N.J.: McGraw-Hill Book Company, January, 1971), pp. 1-2, 11-12.

THE CONE OF LIFELONG LEARNING
A Comprehensive Concept of Learning and Growing*



Major Periods in the Human Life Cycle

Retirement or Golden Years
Age: roughly 60 to death

Continued interests in old hobbies and talents — reflecting on successful and devoted disengagements and entering into planned and feasible retirement engagements — accepting one's status as an older member of society — preparation for death.

Pre-Retirement or Transitional Age
Age: roughly 50-60/65

Continuation of satisfying and necessary career involvement while considering options and making plans for changing over to retirement involvements — making personal and marital adjustments to retirement status.

Later Middle Age
Age: roughly 40-50

The peak years — starting and working up in accordance with simple and mature life-style — substantial fitting into and life's major goals and aspirations — assisting teen-age children to become responsible and mature adults — launching children in education, career and marriage — mutual adjustment to a contracting family.

Early Middle Age
Age: roughly 33-40

Maturing and further focusing of career aspirations and interests — broadening and deepening of avocational interests — consolidating experience and other acquisitions.

Early or Young Adulthood
Age: 18-25, grade 13+

Exploring life's career and lifestyle options on largely autonomous basis — settling and shaping one's life in accordance with maturing interests, values and aspirations — choice of life companion, the lasting marital partner — taking civic responsibility — establishing independent household and/or family unit — accumulating material possessions and expanding family unit.

Older or Later Young Adulthood
Age: roughly 25-33+

Early Teens or Pre-Adolescence
Age: 12-14, grade 7-8

Learning an appropriate masculine or feminine sex role — becoming a person in one's own right — achievement of psychological, social and moral identity — achieving physical maturation, emotional and intellectual and other kinds of maturity — acquiring values and mature controls, self-concepts — developing vocational and/or college preparation insights and competencies on — achieving independence from parents and other adults.

Later Teens or Adolescence
Age: 15-19, grade 10-12

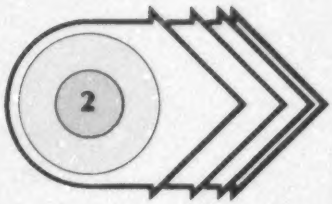
Middle and Older Childhood
Age: 9-11, grade 4-6

Learning role independent existence — acquiring basic survival concepts and competencies on — environment basis and becoming an autonomous person — acquiring language skills and means of self-expression — developing basic sensori-motor skills — learning to relate to parents, siblings, and other significant persons — identifying with parent of the same sex — developing self-control and a positive self-image — acquiring favorable attitudes, skills, basic cognitive, moral, social and physical skills — developing conscience and moral awareness — learning to get along with age mates.

Early Childhood or Pre-School
Age: 0-5 or 6

* A LIFELONG LEARNING CONCEPT which can be used as a guide to help a person plan for planning and developing programs and activities for **Lifelong Learners.** It should be kept in mind that no one person will consider all parts present values and life styles, but which allows one and practical a better, richer life based upon the search for and application of knowledge, wisdom, and life's higher values.

FIGURE 1



STUDENTS

THE ABILITIES OF UTAH STUDENTS

Utah students compare favorably with their cohorts in other states according to a recent publication by the Utah State Board of Education, *Utah Educational Quality Indicators, How Good Are Utah Public Schools?*[13] Data from this report have been incorporated in this section as indicators of student abilities upon entrance into postsecondary institutions.

ACT INFORMATION

The American College Testing (ACT) Program has been routinely used as a testing and admissions program for Utah students entering college.

When the ACT standard scores for all Utah high school students completing the exams — 1967 through 1974 — are compared with the mean ACT standard scores for *college-bound* high school students nationally, Utah students compare very favorably; having exceeded the National mean: seven out of eight years in English, six out of eight years in mathematics and social studies, eight out of eight years in natural sciences, and seven out of eight years when comparing composite scores.[14]

Approximately 60 percent of the graduating high school students in Utah complete the ACT examination. This represents a much higher percentage than in other states where generally only the college-bound students complete the examination. The report states: " . . .comparisons place Utah at a slight disadvantage since a higher percentage of Utah students, as compared to the national percentage, take the ACT and some fraction of the Utah group, who may be assumed to have lower ACT scores, do not go on to college."[15]

GATB RESULTS

The General Aptitude Test Battery (GATB) was developed by the United States Employment Service, and has been used widely by state employment offices since 1947. It has been used both as a testing instrument for use in vocational guidance, and in predicting an individual's potential for success in training, job performance, etc. Data collected in 1961, 1973, and 1974 by the Utah Employment Security Office indicate that approximately 80 percent of Utah high school juniors would be qualified for some form of postsecondary training. Figure 2 provides an estimate of the percentages of students capable of completing various levels of education according to achieved GATB test scores. The following definitions of training levels were used:[16] [17]

(1) Junior college — those colleges in which a certificate or degree is granted after two years of study;

(2) Four-year college — those colleges offering courses which usually lead to a bachelor's degree after four years of study; and

(3) Professional training — colleges offering highly specialized professional courses such as medicine, dentistry, architecture, and engineering.

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[13] Utah, Office of the State Superintendent of Public Instruction, *Utah Educational Quality Indicators–How Good Are Utah Public Schools?* (Salt Lake City: Utah State Board of Education, December, 1974).

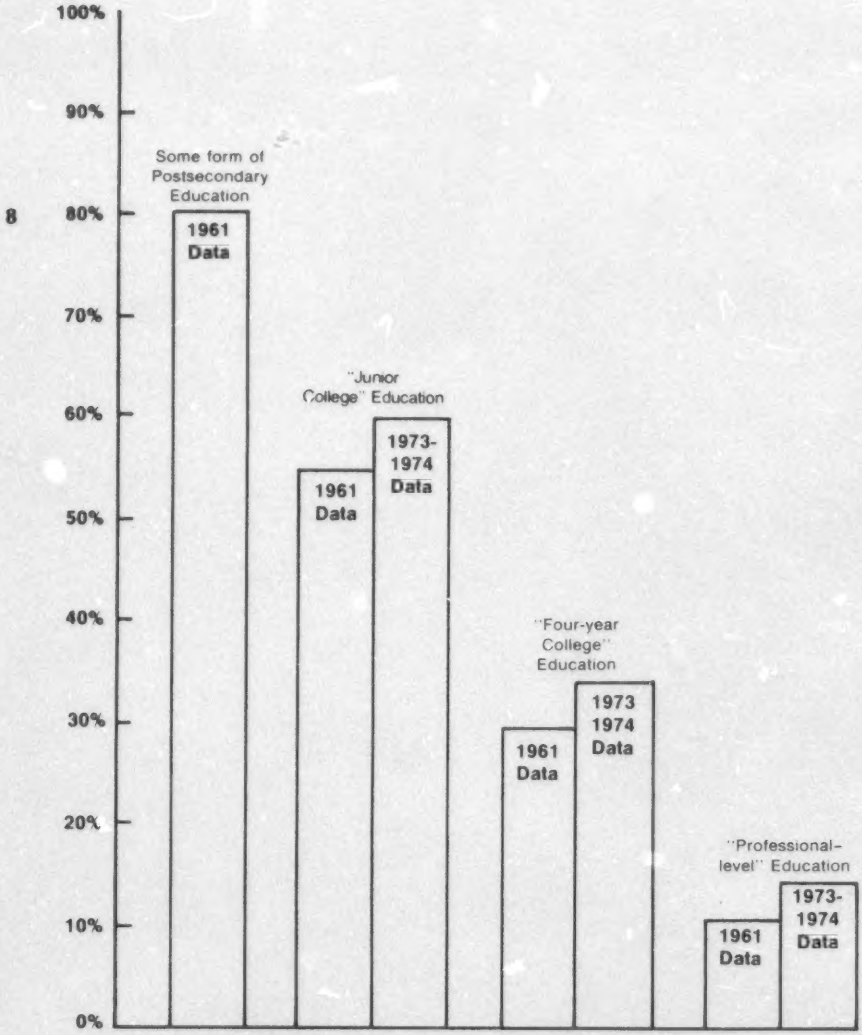
[14] Ibid., pp. 13-39.

[15] Ibid., pp. 15-16.

[16] Ibid.

[17] Utah, Department of Employment Security, *Potential of Utah High School Students for Post-high School Training* (Salt Lake City: Utah Department of Employment Security, April, 1962), pp. 5-6.

FIGURE 2



PERCENTAGES OF UTAH HIGH SCHOOL JUNIORS CAPABLE* OF COMPLETING VARIOUS LEVELS OF POSTSECONDARY TRAINING. DATA FROM 1961 AND 1973, 1974 (Combined)

*Qualifying scores are based on the following general aptitude levels: Some form of Postsecondary Education —90 and above; "Junior College"—100 and above; "Four-Year College"—100 and above; and "Professional Training—120 and above.

Source: Utah, Office of the State Superintendent of Public Instruction, Utah Educational Quality Indicators —How Good are Utah Public Schools? (Salt Lake City: Utah State Board of Education, December, 1974) p. 58.

As shown in Figure 2, there appears to be an increase (1961 data compared to 1973, 1974) in the number of students who have the potential for success in pursuing postsecondary training.[18]

FACTORS RELATED TO STUDENT COLLEGE CHOICES

In a 1966 survey, Utah college freshmen gave high priority to the following considerations when selecting an institution to attend: (1) lower costs, (2) scholarship or financial aid, and (3) institution close to home.[19]

More recent data tend to validate the '66 study concerning costs since the majority of students at several institutions are from the county in which the selected institution is located. For example: Utah Technical College/Salt Lake (Salt Lake County) — 85.1%; Utah Technical College/Provo (Utah County) — 81.8%; University of Utah (Salt Lake County) — 77.0%; College of Eastern Utah (Carbon County) — 74.3%; and Weber State College (Weber County) — 62.8%.[20] Other factors which influence enrollment are institutional reputation, size and character of the studentbody, educational choices of peers, and the desire for education away from home.

It should be emphasized that there are little data which indicate that students select an undergraduate institution on the basis of a particular program. In contrast, it appears that students first select an institution on the basis of other considerations, and then select a training program from the offerings already available at that institution. In instances of strong program preference, students appear to select a particular institution for a particular program. This is especially true for graduate studies. Thus, the Regents' policy of developing institutional specializations in line with local geographical needs is consistent with student selection patterns and does not seemingly violate student prerogatives.

STUDENT ABILITY VERSUS SCOPE OF PROGRAMMING

According to data from the State Board of Education, there were (1971-1972) 44,750 *high school juniors*. Analysis of the postsecondary enrollments at the freshman and sophomore college levels in Fall, 1973, showed that there were 31,193 Utah resident students in attendance. Thus, assuming that the number of high school graduates in 1972 and 1973 who elected not to continue postsecondary education at that time equaled the number of high school graduates from previous years who returned to pursue college training, *approximately 70 percent of all high school juniors in Utah will pursue some type of postsecondary education* (31,193/44, 750 x 100% = 70%). Data from the State Board of Education indicate that fewer than 60 percent of Utah's *ninth graders* eventually pursue some postsecondary education.[21] Since, as indicated previously, roughly 80 percent of the high school *juniors* have the ability to complete some type of postsecondary training, it is clear that there still is a potential studentbody which **is not** being reached.

The distribution of students within postsecondary programs further indicates that there is little correlation between student choices of institutions, the programs available, and student abilities. At the baccalaureate level and beyond, about 33 percent of the students have the ability to complete programs being pursued, but 56 percent are enrolled in such programming. *These analyses indicate that the population which is being missed by postsecondary programs is the group for which "entry-level" programs at the one and two-year levels could be most beneficial.*[22-25] The following

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[18]Utah, *Utah Educational Quality Indicators*, op. cit.

[19]Utah, Coordinating Council of Higher Education, op. cit., pp. 42-45.

[20]Utah, Office of the Commissioner of Higher Education, *Fifth Annual Report to the Governor and the Legislature, Utah State Board of Regents, 1973-74* (Salt Lake City: Utah State Board of Regents, December, 1974), p. 123.

[21]Utah, State Board of Education, "Total Enrollment-Withdrawals, Transfers, Retentions, Promotions, and Deaths" (Salt Lake City: Office of the Superintendent for Public Instruction).

[22]Office of the Commissioner, *Fifth Annual Report*, op. cit., p. 117.

[23]Utah, State Advisory Council for Vocational-Technical Education, op. cit., p. 16.

[24]Utah, Department of Employment Security, loc. cit.

[25]According to an analysis of Fall, 1974, enrollment data (see Figure 2), about 80% of *postsecondary students* are enrolled in four-year (or above) programs. Only 20% are enrolled in two-year (or less) programs. Since only 70% of *high school juniors* enroll in postsecondary programs, about 70% x 80%, or 56% of *high school juniors* enroll in four-year programs. About 70% x 20%, or 14% of *high school juniors enroll* in two-year programs, and about 30% do not enroll in any type of postsecondary training programs.

conclusion from the 1968 Master Plan still seems valid:

> *Enrollment in four-year colleges and universities is near the maximum (student) ability level, while one and two-year enrollment is far below the ability level, and failure to enroll at all includes many who could benefit from further training (parentheses added).*[26]

UTAH MANPOWER NEEDS

An analysis of manpower training requirements to meet Utah needs, prepared by the Department of Employment Security, indicates that vocational-technical education should continue to be emphasized (see Table 1).

TABLE I

10 SUMMARY OF EDUCATIONAL REQUIREMENTS FOR UTAH EMPLOYMENT

	Average Annual Employment 1972	Percent	Projected Average Annual Growth and Replacement Openings 1972-80	Percent
Related to Vocational-Technical Education [a]				
Office of Education Instructional Programs				
Agriculture	14,130	3%	120	1%
Distributive Education	63,330	14	3,780	14
Health Occupations, Education	11,050	2	1,280	5
Home Economics	5,770	1	420	2
Office Occupations	72,010	16	5,680	22
Technical Education	3,740	1	260	1
Trade and Industrial Occupations	92,810	21	6,650	25
Total	262,840	59%	18,190	70%
Not Related to Vocational-Technical Education Curricula				
Level of Formal Education Required for Job Entry				
Four years of college and beyond	48,400	11%		
Post-high school	21,830	5		
High school	30,210	7		
Less than high school	81,520	18		
Total	181,960	41%	8,410	30%
Grand Total	444,800	100%	26,600	100%

a. Includes occupational fields identified by the U.S. Office of Education as requiring vocational-technical background. Office of Education instructional programs are offered in elementary and secondary schools, business, technical and trade schools, junior colleges and colleges.

Source: Utah, Department of Employment Security, *Utah Occupational Requirements for Vocational Education* (Salt Lake City: Utah Department of Employment Security, June, 1973), p. 4.

According to these data, approximately 59 percent of the current job openings in Utah require some training related to vocational-technical education. In contrast, 16 percent of the existing and projected job openings will require training obtained from *postsecondary programs not related to vocational-technical education; while 25 percent will require secondary level training not related to vocational-technical education.* New opportunities for employment in the next decade appear to place greater emphasis upon vocational-technical training, primarily at the expense of job openings which require little or no training.[27]

STUDENT ENROLLMENT PATTERNS

In seeming contrast to the increasing occupational demands for vocational-technical or other postsecondary training, the post-high school education intentions of Utah high school graduates appear to be on the decline. The percentage of students contemplating postsecondary education has decreased from 84 percent in 1969 to 65 percent in 1974. Unless students receive the necessary training in high school, or intend to reenter the educational system at a later date, many high school graduates will be ill-prepared for future "employment" and "life-fulfilling" opportunities.[28]

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[26]Utah, Coordinating Council of Higher Education, op. cit., pp. 45-46.

[27]Utah, Department of Employment Security, *Utah Occupational Requirements for Vocational Education* (Salt Lake City: Utah Department of Employment Security, June, 1973), p. 5.

[28]Utah, Office of the Commissioner of Higher Education, *Fifth Annual Report*, op. cit., pp. 105-113, 127-128.

Due to the shrinking percentage of high school graduates intending to pursue postsecondary training, and due to a more static birth rate following the postwar "baby boom," postsecondary enrollments have not increased at the rates projected in the 1968 Master Plan. Enrollments within the Utah System of Higher Education were projected to increase to 60,000 students by 1977-78. Enrollments for Fall quarter, 1974, were 52,012. Projections for Fall quarter, 1977, have been revised downward to 54,000.[29] Since current data include extended day enrollments while the 1968 projections did not, the departure from the 1968 Master Plan figures is even more dramatic. However, it is quite likely that energy and resource development in the state will increase postsecondary enrollments. Governor Rampton has stated that the population in Utah could increase more than 30 percent by 1985.

The 1968 Master Plan underprojected enrollments at the technical colleges. Figure 3 contains comparisons of percentages of students enrolled in the various types of institutions in 1967-68, Master Plan projections for 1977-78, and the actual percentages of enrollees in 1973-74. As can be seen from this data, no postsecondary institution has increased in enrollment as rapidly as have the two technical colleges. *Total enrollments in the universities have increased by about 25 percent over this period, enrollments in the four-year colleges have increased by 25 percent, enrollments in the two-year colleges have increased by 6 percent, while enrollments in the technical colleges have increased by over 260 percent.*[30, 31]

Data in Figure 4 demonstrate the current distribution of undergraduate students enrolled in the Utah System of Higher Education in vocational and nonvocational programs. Depending upon whether headcount or FTE figures are used, between 18.9 percent and 22.7 percent of all undergraduate students are enrolled in vocational-technical program areas. There are approximately one-half as many nonvocational-technical students at the upper division level as at the lower division level. This suggests that about one-half of the students enrolled in nonvocational-technical disciplines terminate formal education after a one- or two-year period. These students would then, it is assumed, be competing with vocational-technical students for "job-entry" positions.

MINORITIES AND DISADVANTAGED STUDENTS

Considerable effort has been made by the Regents and System institutions to provide equal educational opportunities to all students in the State of Utah. The Task Force report has attempted to reinforce these efforts.

For example, recommendations made in the Master Plan advocate "open-entrance, open-exit, individualized, self-paced instruction." As these definitions demonstrate (see pages 15-18), delivery systems should be developed which stress the importance of meeting the needs of the individual student. Thus, the unique characteristics of minority and disadvantaged students should be encompassed by such an approach.

SUMMARY OF STUDENT FINDINGS

An update of findings in the 1968 Master Plan regarding "Utah students" suggests that:

"The abilities of Utah students are on a par with students in other states as measured by national standardized criteria."[32]

"Utah students prefer to attend college in their local community."[33] Most undergraduate students, however, select an institution prior to selecting a training program. Programs are selected from offerings available at a chosen institution.

"Student choices for training show a low correlation with their abilities."[34]

"The choice of training has a low correlation with employment opportunity in the state."[35]

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[29]Enrollment Projections, Office of the Commissioner, April, 1975.

[30]Utah, Coordinating Council of Higher Education, op. cit., p. 56.

[31]Utah, Office of the Commissioner, *Fifth Annual Report*, op. cit., pp. 105-113, 127-128.

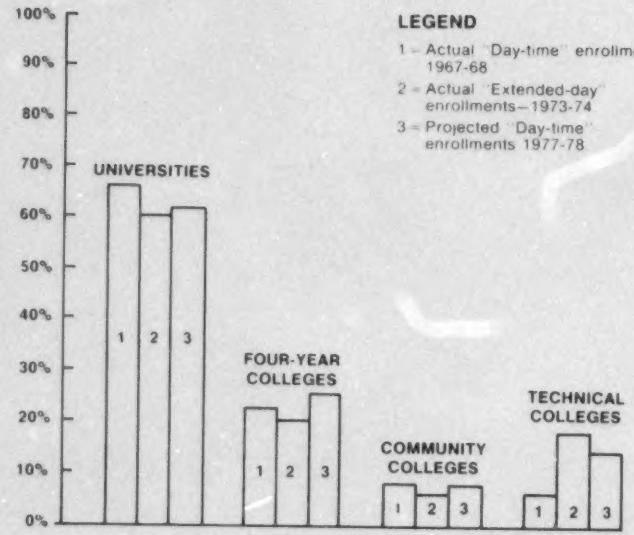
[32]Utah, Coordinating Council of Higher Education, loc. cit.

[33]Ibid.

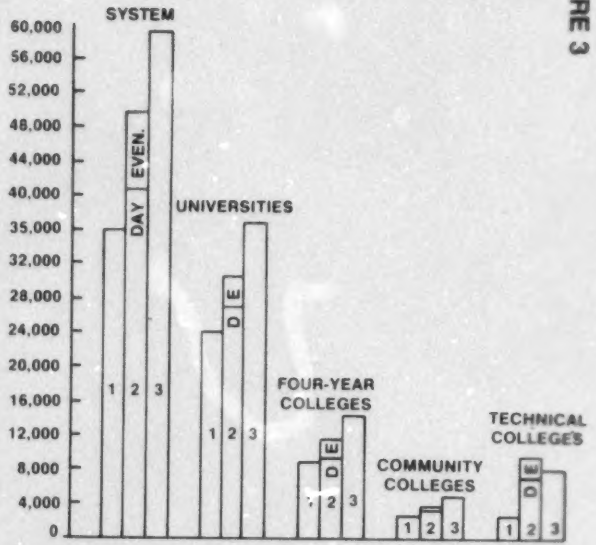
[34]Ibid.

[35]Ibid.

FIGURE 3



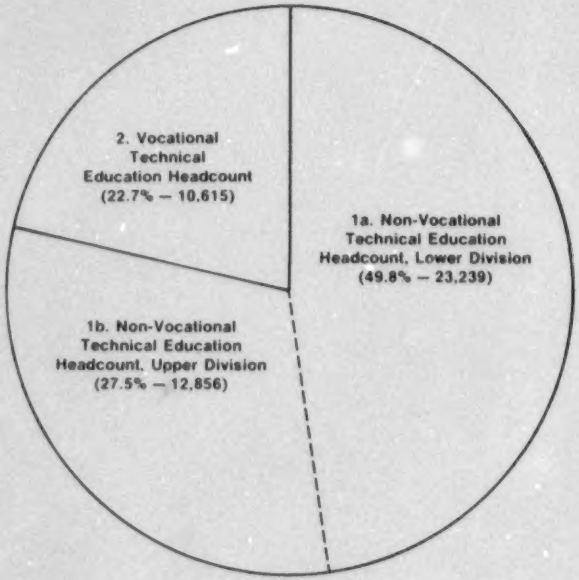
PERCENTAGES OF ENROLLMENT (HEADCOUNT) WITHIN THE UTAH SYSTEM OF HIGHER EDUCATION BY TYPE OF INSTITUTION



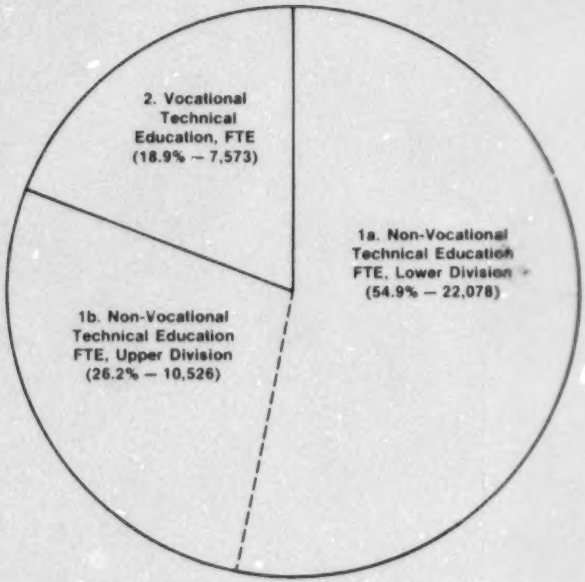
SELECTED YEARLY ENROLLMENTS (HEADCOUNT) IN THE UTAH SYSTEM OF HIGHER EDUCATION BY TYPE OF INSTITUTION

Enrollments for 1967-68 and projected enrollments for 1977-78 are for "day-time" students only

Sources: Utah, Office of the Commissioner of Higher Education, Fifth Annual Report to the Governor and the Legislature, Utah State Board of Regents, 1973-74, (Salt Lake City: Utah State Board of Regents, December 1974), pp. 105-128.
Utah Coordinating Council of Higher Education, Utah's Master Plan for Higher Education (Salt Lake City: Utah Coordinating Council of Higher Education, 1968), p. 56.



A SUMMARY OF AUTUMN 1974 UNDERGRADUATE STUDENTS—HEADCOUNT—BY LEVEL AND TYPE OF STUDENT (VOCATIONAL-TECHNICAL AND NON-VOCATIONAL-TECHNICAL)



A SUMMARY OF AUTUMN 1974 UNDERGRADUATE STUDENTS FTE — BY LEVEL AND TYPE OF STUDENT (VOCATIONAL-TECHNICAL AND NON-VOCATIONAL-TECHNICAL)

Source: Utah, Office of the Commissioner of Higher Education, Utah State Board of Regents 1975-76 Operating Budget Recommendations for the Utah System of Higher Education (Salt Lake City, Utah State Board of Regents, November 19, 1974), p. 31

FIGURE 4

Student enrollment in postsecondary programs has not kept pace with projections included in the 1968 Master Plan. Enrollments for the remainder of this decade are expected to either increase slowly or remain static. If enrollments are to increase dramatically, new clientele must be tapped.

Enrollments at the technical colleges have increased more rapidly than enrollments in other postsecondary institutions during the past decade.

Projections from the Utah Department of Employment Security predict that the need for untrained manpower will decrease in the remainder of this decade — entry-level training will be required for future employment.

Existing data clearly indicate that not all Utah students who have the potential and ability are pursuing postsecondary training in spite of the fact that an increasing number of occupations in the future will demand such training. As societal problems continue to increase in complexity, educational institutions must expand in their capacity to improve all facets of human life. Policies should be further developed which will provide flexibility and assist students in entering and exiting postsecondary vocational-technical programs without loss of time, money, and credit.

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RECOMMENDATIONS

Recommendations contained within this section are based primarily upon the preceding findings, but have a "general" relationship with findings and recommendations contained throughout this report.

Following each recommendation, ACTION items are included. This listing establishes a target date for the implementation of the recommendation. *Prior to July 1 of the year listed,* a report from each institution (or agency) should be forwarded to the Office of the Commissioner covering all recommendations scheduled for implementation during that year.

LEGEND

A Technical Colleges
B Community Colleges
C Four-Year State Colleges
D Utah State University
E University of Utah
F State Board of Regents
G State Board for Vocational Education
H Private and Proprietary Institutions
I Area Vocational Centers
J Others, including local school districts, business and industry representatives, unions, Legislative leaders

Where agencies are listed, it is assumed that interagency cooperation will be achieved in implementing the desired recommendations.

Student Program Flexibility

It is recommended that:

1. *institutions develop vocational program policies consistent with open-entrance, open-exit, individualized self-paced instruction. The Board of Regents should continue to take the initiative in encouraging the community and technical colleges, public and private colleges and universities, and others involved with the education and welfare of the community to assist all individuals who have the desire to further develop vocational-technical skills.*

ACTION: Final report of recommendation #1, 1980 A,B,C,D,E.

To assist in more fully implementing open-entrance, open-exit, and individualized self-paced instruction, it is further recommended that institutions work to develop:

(a) coordinated admissions policies which permit entrance into vocational-technical programs for all "adults" (persons sixteen years of age or older who have graduated from or left elementary or secondary school, or who have received permission from secondary administrators to take such courses);

ACTION: Progress report, 1976: A,B,C,D.

(b) more flexible credit systems which permit students to obtain credit for relevant "on-the-job" experience;

(c) "ladder-concept" programming which permits a student to exit from an educational program at a particular level, work for a period of time, and reenter at a later date with proper recognition both for previous educational attainment and appropriate work experience;

ACTION: Progress report (items b-c), 1976: A,B,C,D,E.

(d) a more flexible scheduling system which is less dependent upon traditional quarters or semesters;

(e) a more flexible credit system of awarding credit which is less dependent upon traditional time measurements and is more closely related to competency measurements;

(f) more flexible class schedules which permit individuals to work — thereby gaining practical and experiential learning — while pursuing formal education;

ACTION: Progress report (items d-f) 1977: A,B,C,D. and

(g) better articulation between and among postsecondary and secondary vocational-technical programs.

ACTION: Progress report, 1977: A,B,C,D,E.

Student Cooperative Education

2. *To implement cooperative-type training in the Utah System of Higher Education, it is recommended that:*

(a) advisory committees for occupational areas be established to assist in the coordination of programs;

(b) students sign training agreements with employers which specify conditions of training, schedules, and pay rates;

(c) credit for cooperative training be an optional choice for the student; to be determined by each institution;

(d) school coordinators visit employers prior to student interviews and placements; and

(e) follow-up activities be conducted after placement with an employer.

ACTION: Progress report (items a-e), 1976: A,B,C,D.

Student Counseling

3. *The Utah State Board of Regents has (and should continue to) adopted policies, where practical, which differentiate among institutional roles and scope. These provide students with meaningful alternatives from which to choose specialized instructional programs. Because all students do not have the same aptitudes, abilities, or interests, nor do they necessarily have the same or similar educational goals, it is imperative that each student be directed to that institution and to that program which best fits his purposes. It is therefore recommended that:*

(a) a statewide coordinated admissions policy be adopted;

(b) institutions allow greater flexibility in transfer procedures;

ACTION: Progress report (items a-b) 1976: A,B,C,D,E.

(c) teacher preparation programs in Utah Colleges and Schools of Education further prepare counselors and teachers capable of advising students in vocational as well as academic fields;

ACTION: Progress report 1977: C,D,E,H.

(d) a strong, well-informed, coordinated counseling and placement service be maintained on the campus of every postsecondary educational institution. This service should evaluate the student and direct him to that program or institution which best fits his purposes, aptitudes, abilities, and interests, consistent with present and prospective job markets and employment opportunities;

ACTION: Progress report 1977: A,B,C,D,E,H.

(e) financial assistance be provided students where educational needs are not being met in their immediate geographical area; and

(f) the state provide financial assistance for minorities, culturally different, and disadvantaged students.

ACTION: Progress report (items e-f) 1977: A,B,C,D,E

Student Employment Opportunities

Vocational-technical educational programs should be developed around "job-entry" skills which match: (1) students' interests and abilities and (2) manpower needs.

It is observed that some students terminate vocational-technical programs prior to completing an outlined course of study due to employment opportunities. It is therefore recommended that:

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4. faculty advisors and counselors apprise students of required training for employment and notify students when they have attained that competency level. Records should be kept of course enrollment, competencies achieved, or program levels completed; suitable related occupations obtained; and follow-up employment data.

Student Program Scope & Breadth

5. employer entry-level requirements be reviewed to ensure that programs are not overtraining or undertraining job entrants. Vocational programs should be shortened or lengthened appropriately to match employer needs.

ACTION: Progress report, 1976: A,B,C,D

Student Transfer

Despite primary emphasis on "job-entry" skills, vocational-technical programs should be designed to serve those students who elect to pursue baccalaureate-level programs immediately upon completion of a less-than-baccalaureate program or some time in the future. It is therefore recommended that:

6. four-year technology or paraprofessional programs in industrial technology, engineering technology, and medically related programs should be constructed to accommodate individuals who elect to transfer or reenter the educational system. They should not be penalized by duplicating previous efforts. Nevertheless, the primary purpose of less-than-baccalaureate vocational-technical programs should continue to be the training of students for "job entry."

ACTION: Progress report 1976: A,B,C,D,E.

Under-utilized Facilities—Secondary Students

Some high schools may not have adequate facilities for vocational-technical programs. Secondary students in these areas may wish to pursue programming at nearby postsecondary institutions as space and programs are available. It is therefore recommended that:

7. where underutilized postsecondary vocational-technical facilities and programs are available within a specific geographical area, secondary students be permitted to participate. Institutional policy in this area should be developed between postsecondary and secondary administrations, with postsecondary institutions providing the leadership role.

ACTION: Progress report 1976: A,B,C,D,I,J.

Outstanding secondary students could compete in postsecondary vocational-technical programs while still in high school. Hence, it is recommended that:

8. articulation agreements between local postsecondary and high school administrators be developed to permit the early entrance (advanced placement) of outstanding high school students into vocational-technical education programs at the postsecondary level. Statewide policy should be agreed upon by the State Board of Regents and the State Board for Vocational Education.

ACTION: Progress report 1976: A,B,C,D,F,G,I,J

Student Apprenticeship Articulation

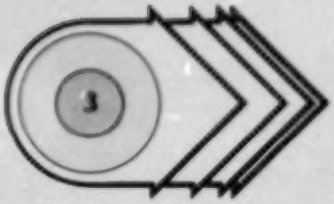
Many vocational-technical programs are in subject areas which also have apprenticeship-type training. To facilitate cooperation between these two enterprises, it is recommended that:

9. existing apprenticeship programs, in which postsecondary institutions provide related training, be continued and expanded. Practicing journeymen should be carefully considered as instructors or advisors for this training.

ACTION: Progress report, 1976: A,B,C,D,I.

10. Potential avenues for granting appropriate credit and awards for students who have received technical training in postsecondary and apprenticeship-type programs (on-the-job training) should be carefully examined. Additional opportunities should be developed whereby applicants for licensing may qualify through post-secondary training to practice a trade after successful completion of a state examination. The State Board of Regents should pursue possible legislation in this area in tandem with postsecondary institutions, the State Board for Vocational Education, unions, business, industry, and the Legislature so that legislation can be prepared and action taken during the 1977 regular legislative session. 17

ACTION: Progress report 1977: Legislation to be prepared for 1977 session: A,B,C,D,F,G,I.



3 CURRICULUM, PROGRAM, AND ROLES— GENERAL GOVERNANCE

INTRODUCTION — DEFINITIONS AND PREMISES

19

In this report, *"curriculum"* is defined to mean specific individual courses designed for a particular program. *"Program"* refers to a group, discipline, or area in which the student is being trained, i.e., all of the courses which constitute the institutional requirements for a major degree, diploma, or certificate. The term *"role"* describes the character or nature of a postsecondary institution as assigned by the State Board of Regents. Role therefore refers to the functions which are performed by the institution through its administration, faculty, staff, or other employees for the public that it serves. Roles also indicate the institution's mission, specifying the instructional programs, public services, degrees, research, continuing education programs, student services, and so forth, which will be offered. A role can be assigned to cover a single program, or it can be a designation to include several programs. The totality of offerings constitutes the institution's roles.

In preparing this report, the Task Force has adopted the philosophy espoused in the 1968 Master Plan Study Committee "L" report, *Roles and Curriculum*, namely:

> While the designated central state coordinating agency (State Board of Regents) should finally be responsible for the coordination of programs, this in no way should relieve the institution from responsible participation in curriculum and program development. It is acknowledged that the academic departments possess the competence to decide the proper structure and content of a program or curriculum; governing boards and administrative officers can best decide how a proposed program relates to the institution's role. It remains for the central state coordinating agency (State Board of Regents) to apply its judgment as to how a proposed program relates to the programs of other institutions in the state. In addition, it must assess the prospects of growth, the impact of the change on other programs in the system, the effectiveness of the same or similar programs being offered elsewhere, and the alternative means to meet the needs established by the proposal (parentheses, added).[16]

Additional premises upon which the Task Force based its recommendations follow:

> *The basic goal of higher education in Utah should be to provide quality educational opportunities for all post-high school students who can profit from additional training.*[17]

This has special application in making one- and two-year entry-level programs available to a growing audience.

> *Coordinated development . . . is necessary if Utah is to assure the availability of educational opportunities for all qualified students, without unnecessary duplication and a consequent waste of the state's resources.*[18]

Coordination was mandated in 1969 under conditions which then reflected an expansionist view in higher education. Present conditions reflect a slowdown in traditional student enrollments and uncertain budgets. This will require even greater coordination if new and existing programs are to meet the demands of a rapidly changing society.

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[16] Utah, Coordinating Council of Higher Education, *Roles and Curriculum, Master Plan Study Committee L Report to the Utah Coordinating Council of Higher Education* (Salt Lake City: L.R. McCarrey, Utah Coordinating Council of Higher Education, November, 1968), p. 77.

[17] Ibid., p. 5.

[18] Ibid.

Experience under the State Board of Regents has demonstrated that the coordinated development of postsecondary programs has not violated Utah's educational traditions nor intruded on the initiative or creativity of its institutions. Democratic traditions in education have not required that all students attend the same or similar institutions, or enroll in similar programs. Coordination allows individualized and specialized roles, permitting an appropriate division of labor among the institutions. Nevertheless, *the assignment of roles and programs is revocable. Alterations in the conditions which prompted the original assignment may provide bases for a new assignment of roles and/or the exchange or elimination of others. Consequently, the Task Force strongly favors periodic review of programs and roles by both the institutions and the State Board of Regents.*[39]

CHARACTERISTICS AND HISTORY OF UTAH'S POST-HIGH SCHOOL INSTITUTIONS IN VOCATIONAL-TECHNICAL EDUCATION[40]

20 The Utah Legislature has established postsecondary institutions at almost every center of population capable of justifying programs. This action has been based upon the assumption that education should be equally accessible to all who desire it or who can profit from it. Prior to the establishment of the State Board of Regents in 1969, institutions were free — within the general roles specified by legislative action — to determine their own special character and range of individualized programs, based upon the interests of faculties, administrations, governing boards, and budget realities.

Vocational-technical education has become an important part of the Utah System of Higher Education. For example:

- Utah State University has been explicitly involved in the development of the land-grant concept particularly the agricultural and engineering disciplines. Over the years, the University of Utah has been involved, on a limited basis, in paraprofessional training.
- Both of Utah's public four-year colleges evolved from two-year institutions, having histories of vocational-technical education. Weber State College, by virtue of its location in a more metropolitan environment, continues to have considerable involvement in vocational-technical training in a wide variety of areas. Southern Utah State College, which developed from a normal school, now has vocational-technical programs in several technical and business areas.
- Although vocational-technical programming has existed at the two-year colleges for many years, transfer has been the major emphasis at these institutions. Introduction of the community college concept has accelerated the development of vocational-technical education within these institutions. Currently, programs in technical, allied health, business, and other areas are available at all public colleges in the state.
- The technical colleges, which developed from vocational centers, have a history since inception in vocational-technical education. The primary purpose of these colleges, as defined by the Legislature, is for "job-entry" training skills.
- Development of vocational-technical education at Brigham Young University has been gradual, but significant. Such training at Westminster College has been essentially undeveloped until recently, due to its liberal arts nature.
- Utah has an abundance of proprietary institutions offering less-than-baccalaureate programs. They train "entry-level" personnel for such occupations as barbering, cosmetology, business, computer programming, engineering trades, and medical areas.
- Finally, by virtue of legislative action, the Area Vocational Centers have been authorized to offer postsecondary credit for courses in vocational-technical education.

REVIEW OF EXISTING VOCATIONAL-TECHNICAL PROGRAMS IN UTAH

Data in Appendix A summarize existing less-than-baccalaureate vocational-technical programs offered within Utah's postsecondary institutions.[41] [42] Since there is considerable divergence of

[39]Ibid., p. 7.

[40]Ibid., pp. 9-23.

[41]Leon R. McCarrey, *Career by Choice: A Guide to Career Training Programs at Utah Public and Private Post-high School Institutions* (Salt Lake City: Utah System of Higher Education, November, 1972).

[42]Institutional catalogs, 1974-75, private and public universities and colleges in Utah.

opinion as to which *baccalaureate-level programs are vocational-technical in nature*, no attempt is made to include them. However, it is generally accepted that the four-year engineering technology programs at Brigham Young University and Weber State College, the four-year industrial technology programs at Brigham Young University, Southern Utah State College, and Utah State University, and a few of the four-year allied health, paraprofessional programs (such as medical technology) could be considered as vocational-technical education under the category of paraprofessional-technical training.[43]

There are numerous vocational-technical programs in proprietary institutions in the state. A summary of these programs is also found in Appendix A. A complete listing is contained in the publication *Career by Choice*,[44] published by the Office of the Commissioner.

There are approximately 400 vocational-technical programs offered within Utah's postsecondary institutions. Considering the volume of programs offered, it appears necessary for purposes of planning and coordination, that the public and private sectors be cognizant of the total scope of vocational-technical programming in the state. The philosophy of the 1968 Master Plan adopted by the State Board of Regents should prevail, namely, where private capability exists to assist in satisfying state needs, private program development should be continued and encouraged.[45]

REVIEW OF ROLE ASSIGNMENTS IN VOCATIONAL-TECHNICAL EDUCATION

The 1968 Master Plan[46] defined roles for Utah's institutions of higher education in vocational-technical education, which the State Board of Regents and the Office of the Commissioner have followed. However, the recent growth in vocational-technical education has heightened interest regarding role assignments. For example, the 1968 Master Plan does not assign a specific role to the universities in either vocational or technical education.[47] A legitimate question arises as to whether either of these institutions should be involved in vocational-technical training. If so, in what areas? In reaching such decisions, the committee felt that consideration in Cache Valley should be given to two factors, namely: (1) there is no two-year college in the county, *but* (2) the Bridgerland Area Vocational Center established by the State Board for Vocational Education does exist.

The 1968 Master Plan limited the roles of the four-year colleges and the three community colleges in vocational-technical areas to roles which meet *local geographical needs*.[48] The initiation of programs such as mining technology at the College of Eastern Utah, which will meet a state need in energy development, raises the question of whether this violates existing role assignments.

The Legislature and the State Board of Regents have assigned the two technical colleges primary roles in vocational-technical education. In addition, the Regents have limited the two institutions to Associate of Applied Science (AAS) degree programs in vocational-technical disciplines only. However, the status of these two colleges regarding transfer-type programs should be further resolved.

Data in this report indicate that:

- Significant numbers of new instructional programs considered and approved by the Utah State Board of Regents in recent years have been in vocational-technical areas (60% of the programs approved in the past three years were vocational-technical).
- *There are 200 separate vocational-technical programs currently offered at the public and private colleges and universities, and over 200 separate vocational-technical programs offered at the proprietary institutions in the state.*
- In 1974 there were 10,615 students enrolled by headcount in vocational-technical programs at Utah System of Higher Education institutions. Data regarding vocational-technical education enrollments at Brigham Young University and Westminster Col-

[43] Engineering Ad Hoc Committee, *Baccalaureate Technological Programs, Utah Institutions of Higher Education*, Report prepared by the Office of the Commissioner (L.R. McCarrey) for the Utah State Board of Regents (Salt Lake City: Utah System of Higher Education, February 15, 1974).

[44] L. R. McCarrey, op. cit., pp.18-23.

[45] Utah, Coordinating Council of Higher Education, *Utah's Master Plan for Higher Education*, op. cit., p. 64.

[46] Ibid., p. 76.

[47] Ibid.

[48] Ibid.

lege were not requested by the Committee and thus were unavailable to the Task Force. Vocational-technical enrollments are estimated from 4,000 to 5,000 in the proprietary institutions. This represents approximately 20 percent of the enrollment by headcount of those enrolled in postsecondary institutions.

RECOMMENDATIONS

Following each recommendation, ACTION items are included. This listing establishes a target date for the implementation of the recommendation. *Prior to July 1 of the year listed,* a report from each institution (or agency) should be forwarded to the Office of the Commissioner covering all recommendations scheduled for implementation during that year.

LEGEND

A Technical Colleges
B Community Colleges
C Four-Year State Colleges
D Utah State University
E University of Utah
F State Board of Regents
G State Board for Vocational Education
H Private and Proprietary Institutions
I Area Vocational Centers
J Others, including local school districts, business and industry representatives, unions, Legislative leaders

Where agencies are listed, it is assumed that interagency cooperation will be achieved in implementing the desired recommendations.

Area Vocational Centers Program Approval

The Task Force accepts the policy espoused in "Utah's Master Plan for Higher Education," namely, that statewide coordination of all postsecondary (adult) vocational-technical education is necessary in order to provide strong educational programs to meet student needs, avoid unnecessary duplication, reduce inefficient allocation of resources and discontinue unwarranted program offerings. Therefore, it is recommended that:

11. (a) all postsecondary vocational (adult) education programs developed at any institution — including area vocational centers — be approved by the State Board of Regents. If this recommendation is adopted by the Regents, legislation changing the present law will be required.

ACTION: Legislation prepared for 1977 session: F,G,I,J.

Joint Appointments

(b) where an area vocational center exists in the same approximate region as a postsecondary institution offering vocational education, joint vocational-technical administrative appointments be developed wherever feasible, e.g., Sevier Valley Tech/Snow College.*

ACTION: Report 1976: A,B,C,D,F,G,I

Postsecondary Leadership

(c) where an area vocational center exists within the same approximate region as a postsecondary institution, the postsecondary institution exert the leadership role in planning for postsecondary (adult) vocational education programs; and

ACTION: Report 1976: A,B,C,D,F,G,I

Vocational Facilities

(d) any space which is constructed, purchased, rented, repaired, or otherwise utilized for postsecondary education be approved by the State Board of Regents and where required by the State Board for Vocational Education.

ACTION: Progress reports 1976: A,B,C,D,E,F,G.

A.V.C. Program Emphasis

The technical colleges at Salt Lake and Provo developed from area vocational centers. Legislative approval to offer postsecondary credit at the present area vocational centers increases the possibility

*If recommendations 8(a) and 9 are legislatively adopted, joint administrative appointments would not be necessary since all postsecondary programs and credit would be authorized through the State Board of Regents.

of these centers also developing into postsecondary technical institutes and/or technical colleges. A number of recommendations contained herein stress the need for studies and affirmative recommendations prior to creating new postsecondary institutions, or prior to expanding existing postsecondary institutions. It is therefore recommended that:

12. the primary emphasis at the area vocational centers be training of secondary students. The training of postsecondary (adult) students should be permitted only in cases where such students can be incorporated into existing secondary educational programs without requiring additional facilities, equipment, or other educational resources. The Task Force strongly recommends that the State Board for Vocational Education confer with the Legislature and that the Legislature reconsider the authority to grant postsecondary credit at area vocational centers.[50] Credit for postsecondary courses completed at the centers should be granted through existing institutions of the Utah System of Higher Education. This will minimize the potential of the centers developing into postsecondary institutions and will assure transferability of credit among postsecondary institutions. 23

ACTION: Legislation prepared for 1977 Session: F,G,I,J.

EXPANSION IN SCOPE AND BREADTH OF NEW AND EXISTING POSTSECONDARY VOCATIONAL ENTERPRISES

Postsecondary Institutional Expansion

It appears that the basic interests of higher education in Utah will be best served by: (a) assuring that future institutional growth is the result of institutional role fulfillment and not as the result of competition for students, and (b) concentrating high-cost programs in the most suitable locations, through careful assessment of student and state needs. It is therefore recommended that:

13. (a) the Legislature *not expand* the role of any secondary institution without a comprehensive study by the State Board of Regents, and by the State Board for Vocational Education where area vocational centers and the technical colleges are involved. Thus, the expansion of a community college to a four-year college, the expansion of a technical college to a community college, or the expansion of an area vocational center to a technical college should not occur without such a study and appropriate affirmative recommendations. Before expansion is permitted, consideration should be given to establishing new colleges in their own right, rather than as an outgrowth of an existing postsecondary program and/or institution;

New Postsecondary Institutions

(b) the *creation of new* postsecondary institutions, including area vocational centers offering postsecondary credit, not be authorized by the Legislature until a need and feasibility study together with recommendations is submitted by the State Board of Regents.

ACTION: 1975-85: F,G,J

Private/Proprietary Institutions

The state has an important resource in vocational-technical education in the private and proprietary sectors. These institutions should be fully utilized and considered in all postsecondary vocational-technical planning. It is therefore recommended that:

14. private program development should be continued and encouraged where capability exists to assist in satisfying state manpower needs. To facilitate proper consideration of private and proprietary programs in statewide planning, it is recommended that these schools provide the Board of Regents with annual reports regarding programs, enrollments, and graduates, as well as new planning proposals and recommendations.

ACTION: Annual reports, 1976-85: F,H.

The Task Force strongly supports a proprietary school bill for postsecondary institutions. It is recommended that the State Board of Regents support the preparation of such legislation by

[50]Staff of the State Board for Vocational Education, serving on the Task Force, have stated that these centers should not offer postsecondary credit.

appropriate personnel within the proprietary postsecondary sector — perhaps the Utah Private School Association. Exclusions from the bill should include elementary, secondary, and appropriate postsecondary institutions.

ACTION: Legislation prepared 1977 session: F,H,J.

Technical Colleges Role

The Task Force favors continuation of the same roles for Utah's institutions of higher education in vocational-technical education delineated in the 1968 Master Plan, with minor modifications. It is therefore recommended that:

15. the primary focus of programming at the two technical colleges continue to be vocational-technical in nature. The primary emphasis of all less-than-baccalaureate vocational programs, whether at the technical colleges or at other institutions, should be generally directed toward providing job-entry skills;

24

ACTION: Progress reports, 1976: A,B,C,D,E,F,G.

Community Colleges Role

16. the three community colleges continue to function in the area of vocational education basically as assigned in Utah's 1968 Master Plan, i.e., primary role responsibilities to meet area geographical needs. High-cost, specialized programs which serve a statewide role should be developed at the community colleges if and when area geographical needs dictate such assignments. Other specialized, high-cost vocational programs (in the vocational areas) should be developed in the more densely populated metropolitan areas, and only there when manpower data clearly indicate the need for such programs. Procedures should be established to discontinue programs at any institution when the manpower demand has been met.

ACTION: Progress reports, 1976: B,F.

17. community and technical colleges state in institutional catalogs that credits offered are not for transfer as upper division credits to other institutions. Moreover, community and technical colleges should not offer three-year vocational-technical programs.

ACTION: Report 1977: A,B.

Four-Year Colleges Role

18. Weber State College continue to perform a major role in a number of program areas related to paraprofessional-technical education; while Southern Utah State College fulfill more limited role capacity in select areas. Both four-year institutions — Weber State College and Southern Utah State College — have roles in vocational-technical education programs to meet area geographical and assigned role responsibilities.

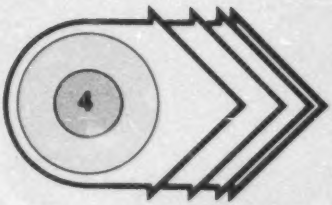
ACTION: Progress reports, 1976: C,F.

Universities' Role

19. the University of Utah should not pursue programs in vocational areas. Because Utah State University[50] is the only postsecondary institution located in Cache Valley, it does perform a limited role in tandem with the Bridgerland Area Vocational Center in providing programs to meet local geographical needs.

ACTION: Progress reports, 1976: D,E,F,I.

[50]Programs at Utah State University in industrial teacher education and business education, from the baccalaureate through the doctoral level, were assumed by this Task Force to be professional teacher education programs.



CURRICULUM & ROLES — UNIQUE ASPECTS OF VOCATIONAL-TECHNICAL EDUCATION

STATE MANPOWER DEMANDS

The focus of the Task Force Master Plan Report for Vocational-Technical Education has centered around the general philosophy of quality education at a cost-effective level to meet student, state, business, labor, and industrial needs.

Data in Table 1 summarize the projected educational manpower requirements to meet Utah employment needs. According to 1972 data, *approximately 60 percent of the available employment opportunities were related to vocational-technical training.* Projected employment opportunities appear to place even greater emphasis upon vocational-technical training, i.e., 70 percent of the annual growth and replacement openings for the remainder of the decade are projected in this area (see Table 1).

Figure 5 has been constructed to graphically illustrate the percentage distribution of employment opportunities *among various occupational areas which require vocational-technical education.* It is estimated that the two occupational areas with high growth potential — *trade & industrial* and *office occupations* — will have "projected annual growth and replacement openings" (36.6% and 31.2%, respectively) which exceed 1972 average annual employment percentages (35.3% and 27.4%, respectively). The next two largest occupational areas — *distributive education* and *agriculture* — are projected to have growth and replacement percentages (20.8% and 0.7%, respectively) which are below 1972 average annual employment percentages (24.1% and 5.4%, respectively). However, in view of recent world food shortages and subsequent price increases, agriculture may exceed the projected low annual growth and replacements percentages. The remaining occupational areas — *health occupations, home economics,* and *technical education* — have growth and replacement (7.0%, 2.2%, and 1.4%, respectively), which are either equal to or greater than the 1972 average annual employment percentages (4.2% 2.2%, and 1.4%, respectively). *It is anticipated that annually there will be job openings in most occupational areas for qualified individuals from vocational-technical programs.*

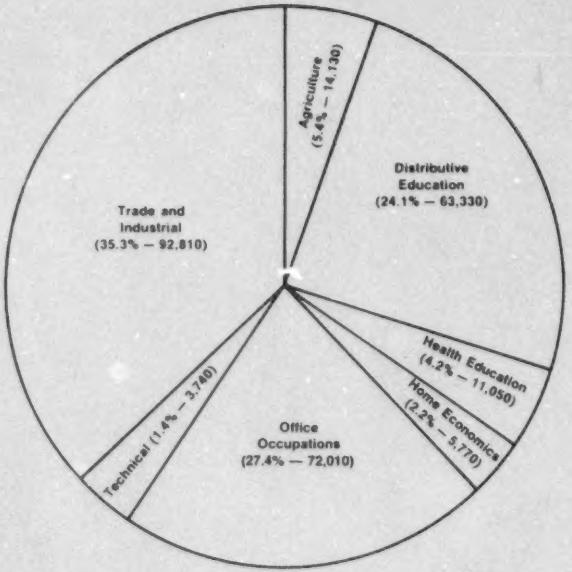
With shorter periods of training and an emphasis upon training for employment, it becomes easier to relate vocational-technical education directly to manpower supply and demand data than is possible with more traditional educational programs. When new programs are initiated care should be taken so that only those programs are approved that meet manpower needs not currently being served by existing programs or institutions.

COSTS OF VOCATIONAL-TECHNICAL PROGRAMS

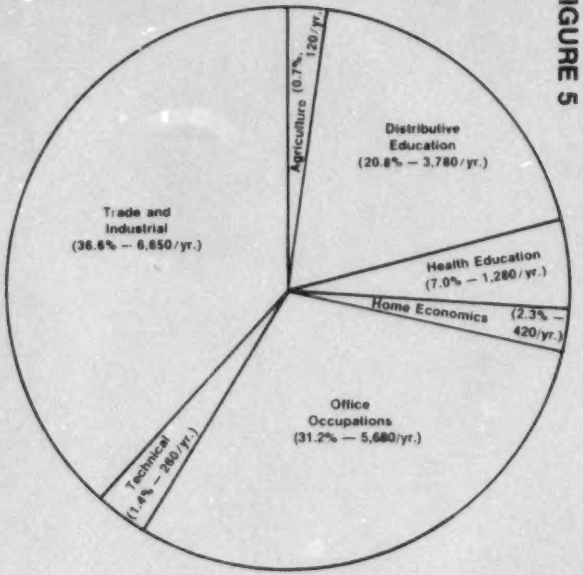
Several factors determine educational program costs, i.e., the number of emphases offered, the number of students enrolled per class, faculty teaching loads, the number of labs associated with the program, necessary equipment, etc. In vocational-technical education, program costs can also depend upon whether skill training should occur on campus, or "on-the-job" through cooperative work experience.

Despite differences among various training programs, it is generally true that vocational-technical training is more expensive than are two-year transfer programs. This is due to the additional expenses generally associated with skill acquisition — laboratories and shops, equipment and tools, smaller classes due to laboratory and shop limitations, and detailed supervision of skill development while using equipment and tools. A national cost study of private two-year college costs confirmed this

FIGURE 5


Agriculture (5.4% — 14,130)
Distributive Education (24.1% — 63,330)
Trade and Industrial (35.3% — 92,810)
Health Education (4.2% — 11,050)
Home Economics (2.2% — 5,770)
Technical (1.4% — 3,740)
Office Occupations (27.4% — 72,010)

PERCENTAGE OF AVERAGE ANNUAL EMPLOYMENT — 1972.


Agriculture (0.7% — 120/yr.)
Distributive Education (20.8% — 3,780/yr.)
Trade and Industrial (36.6% — 6,650/yr.)
Health Education (7.0% — 1,280/yr.)
Home Economics (2.3% — 420/yr.)
Technical (1.4% — 240/yr.)
Office Occupations (31.2% — 5,680/yr.)

PERCENTAGE OF PROJECTED AVERAGE ANNUAL GROWTH AND REPLACEMENT OPENINGS — 1972-80

SUMMARY OF EMPLOYMENT OPPORTUNITIES AMONG VARIOUS OCCUPATIONAL AREAS REQUIRING VOCATIONAL-TECHNICAL EDUCATION

*Includes occupational areas identified by the U.S. Office of Education as requiring vocational-technical training.

These instructional programs are offered in secondary schools; business, technical, and trade schools; junior and community colleges; and four-year colleges.

Source: Utah, Department of Employment Security, Utah Occupational Requirements for Vocational Education (Salt Lake City: Utah Department of Employment Security, June 1973), p. 4.

generalization.[51] The data in Figure 6 are abstracted from that study. They show the average total direct cost per student credit hour (SCH) in vocational subjects at select private two-year colleges. These exceed the average cost per student credit hour in other subject areas.

The Engineering Technology Education Study substantiated that vocational-technical programming costs more.[52] The report described two-year and four-year *engineering technology* programs relating them to paraprofessional technical education offered at two-year colleges.[53] The study recommended that:

> Only those institutions with rather large enrollments should undertake engineering technology programs at the associate degree level. The cost of providing both laboratories and instructors beyond the vocational level is only justified if 20-30 graduates can be produced annually from each specialized program. Because of early terminations, admission of 50-70 new students per year per program may be needed for viability.[54]

VIABILITY OF VOCATIONAL-TECHNICAL PROGRAMS

Unless an engineering technology program, or for that matter any education program, graduates a given minimum number of students, the program is difficult to justify.

The 1968 Utah Master Plan stated:

> Coordinated development . . . is necessary if Utah is to assure the availability of educational opportunities for all qualified students, without unnecessary duplication and a consequent waste of the state's resources.
>
> *The 1968 Master Plan strongly recommended that high-cost programs be concentrated in the most suitable locations as a result of careful assessment of student and state needs.*[55]

The State University System of Florida, for example, requires *baccalaureate programs* to be reviewed if they produce fewer than 5-10 degrees annually for a three-year period (the number varies depending upon whether or not there is an associated graduate program).[56] While defensible standards in vocational-technical education, *per se*, are virtually nonexistent, it would appear logical to require minimum numbers of graduates annually from each less-than-baccalaureate degree program, since these kinds of programs are so closely related to manpower needs.

An examination of the data in Appendix A and in "A Summary of Autumn 1974 Headcount and FTE Students, by Level and Type of Student"[57] reveals that the average number of students enrolled in vocational-technical lower division programs varies dramatically from institution to institution. This analysis is summarized in Figure 7. The average enrollment varies from approximately eight enrollees per program to about 130 enrollees per program.

OFFICE OF EDUCATION CODE DESIGNATIONS

Vocational-technical education programs are designed specifically to prepare trainees for employment. Most of the offerings are related either to a specific occupation or to a family of related occupations.

The United States Office of Education has developed a grouping system which identifies vocational-technical program areas. The publication entitled *Vocational Education and Occupations* groups a number of similarly related occupations (listed under the U.S. Government *Dictionary of*

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[51] Richard Meeth, *A Curricular and Financial Cost Analysis of the Independent Two-Year Colleges of America* (Washington, D.C.: The National Council of Independent Junior Colleges, 1974), p. 42.

[52] American Society for Engineering Education, *Engineering Technology Education Study, Final Report* (Washington, D.C.: American Society for Engineering Education, January, 1972).

[53] Ibid., p. 6.; Engineering technicians (two-year graduates) and engineering technologists (four-year graduates) are expected to apply attendant technical skills in support of engineering activities. The field of engineering technology lies in the occupational area between the craftsman and the engineer closest to the professional engineer.

[54] Ibid., p. 41.

[55] Utah, Coordinating Council of Higher Education, *Roles & Curriculum*, op. cit., p. 77.

[56] Florida, State University System of Florida, *Criteria of Evaluation and Existing Programs* (Tallahassee: State University System of Florida, October 9, 1972).

[57] 1975-76 Operating Budget Recommendations Utah System of Higher Education.

FIGURE 6

TOTAL COST PER STUDENT CREDIT HOUR

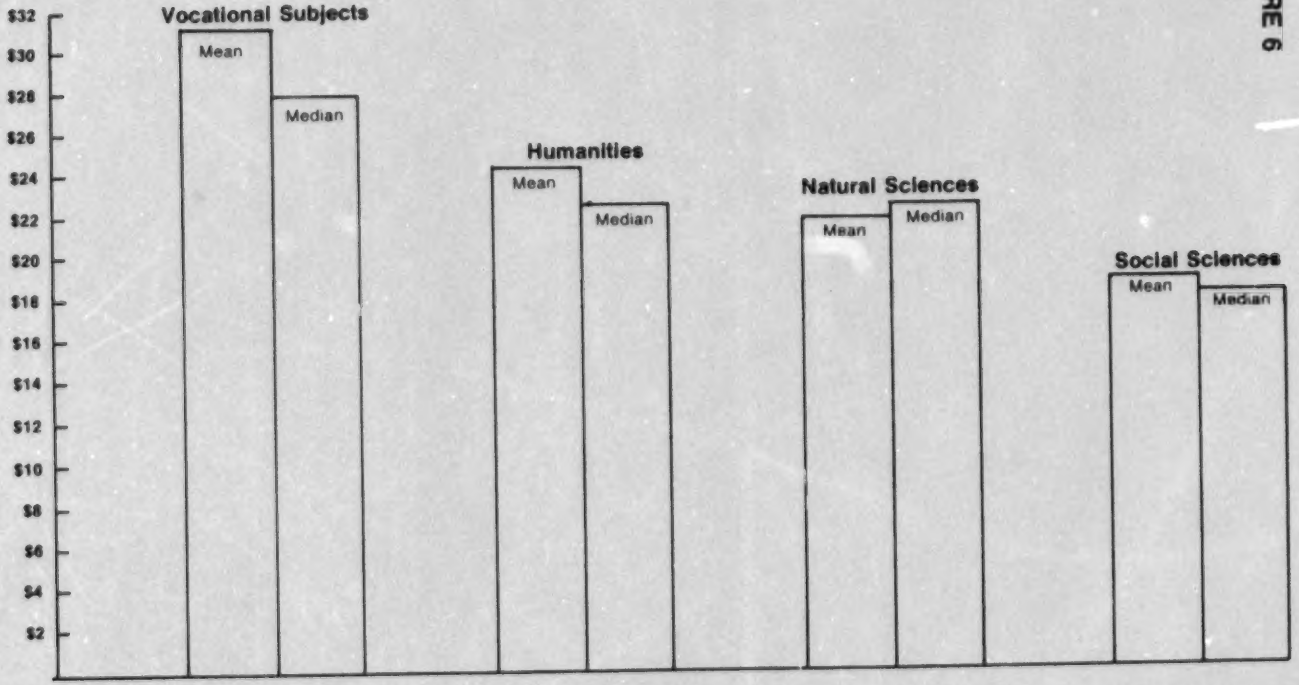


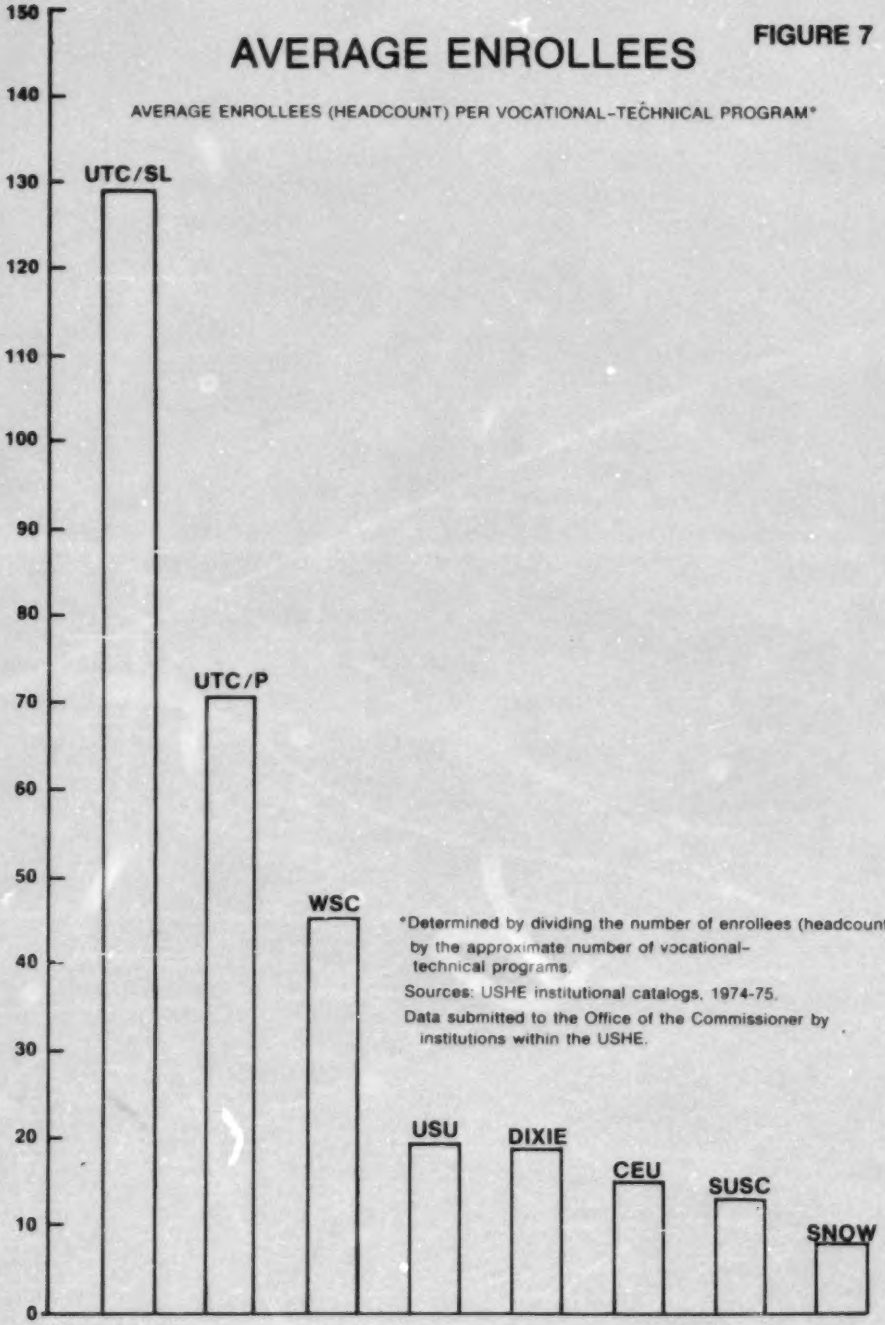
FIGURE 5. TOTAL DIRECT COST PER STUDENT CREDIT HOUR FOR SEVENTY-FIVE INDEPENDENT TWO-YEAR COLLEGES

Source: L. Richard Meeth, A Curricular and Financial Cost Analysis of the Independent Two-year College of America (Washington, D.C.: The National Council of Independent Junior Colleges, 1974), p. 42.

AVERAGE ENROLLEES

FIGURE 7

AVERAGE ENROLLEES (HEADCOUNT) PER VOCATIONAL-TECHNICAL PROGRAM*



*Determined by dividing the number of enrollees (headcount) by the approximate number of vocational-technical programs.

Sources: USHE institutional catalogs, 1974-75.

Data submitted to the Office of the Commissioner by institutions within the USHE.

Occupational Titles) and then defines an educational program which trains graduates for that particular skill.[58] The specialized vocational-technical program is then given an Office of Education code designation for identification purposes. The grouping of related occupations and educational programs is continued throughout the OE code designations. Appendix B demonstrates how these OE code designations may be employed.

AWARD DESIGNATIONS FOR VOCATIONAL-TECHNICAL EDUCATION

Data in Appendix C illustrate the variety of awards offered in Utah's institutions for completion of less-than-baccalaureate level programs. In addition to a variety of associate degrees, institutions offer multiple "certificate-type" awards, and diplomas. While associate degrees are fairly well defined (Associate of Arts, Associate of Science, and Associate of Applied Science),[59] the definitions for diplomas and various certificate awards vary greatly. For example: (1) Weber State College uses the terminology "certificate of _____" to denote a variety of programs ranging from a few months to two years in length; (2) Utah Technical College/Salt Lake uses the certificate designation *for* programs of one year or less in length, Diplomas are used for programs of two years; and (3) LDS Business College uses the term, diploma, for one-year programs and the term, certificate, for programs of less than one year (see Appendix C).

30

In addition to a lack of standardization in defining awards, there is a broad variety of institutional practices in specifying the achievement of competencies. Recommendations have been made in the report to develop more flexibility in vocational-technical education regarding open-entrance, open-exit, self-paced instruction. When such flexibility becomes a reality, more reliance on competency and less dependency on a structured time frame will be required. Standard usage of "credit hours" and "one-year" programs would become less common, and would be replaced by definitive descriptions such as "Certificate (front end mechanic)."

The primary emphasis of vocational-technical education is training for job entry. Defining certificates and diplomas in terms more related to competencies emphasizes this "job-preparation" role. The Task Force felt that vocational education would be further highlighted through the use of the Associate of Applied Science (AAS) degree. As defined in the 1968 Master Plan, the Associate of Arts (AA) and the Associate of Science (AS) degrees are principally designed as transfer degrees. The structure of the curricula — roughly 50% in general education and 50% in a concentration and related subjects — illustrates the "transfer" qualities of these degree programs. In contrast, the AAS degree is normally designed for students who wish to complete a formal education in two years. The course content for this degree includes roughly 25% in general education and 75% in a concentration and related skill subjects. This highlights the increased emphasis upon skill acquisition. It should be noted that current Board of Regents' policy permits transfer of A.A.S. degree credits to related four-year degree programs.

SUMMARY OF MANPOWER FINDINGS

The manpower data in this section, while only one criterion, reveal that:

- Nearly 60% of the available manpower opportunities in 1972 were related to vocational-technical education. Approximately 70% of the annual growth and replacement openings for the next decade also will be related to vocational-technical education.
- The largest numbers of employment opportunities in 1972 within the vocational-technical areas were: 1) trade & industrial (35.3%), 2) office occupations (27.4%), 3) distributive education (24.1%), 4) agriculture (5.4%), 5) health occupations (4.2%), 6) home economics (2.2%), and 7) technical education (1.4%).
- The largest numbers of existing vocational-technical programs which are currently offered are: 1) trade & industrial (46%), 2) office occupations (15%), 3) health occupations (13%), 4) distributive education (12%), 5) technical education (7%), 6) agriculture (4%), and 7) home economics (3%).

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[58] U.S. Department of Health, Education Welfare, *Vocational Education and Occupations*, U.S. Government Printing Office, Catalogue number FS5.280: 80061 (Washington: 1969).

[59] Utah, Coordinating Council of Higher Education, *Roles and Curriculum*, op. cit., pp. 40-41.

RECOMMENDATIONS

Following each recommendation, ACTION items are included. This listing establishes a target date for the implementation of the recommendation. *Prior to July 1 of the year listed*, a report from each institution (or agency) should be forwarded to the Office of the Commissioner covering all recommendations scheduled for implementation during that year.

LEGEND

A Technical Colleges
B Community Colleges
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D Utah State University
E University of Utah
F State Board of Regents
G State Board for Vocational Education
H Private and Proprietary Institutions
I Area Vocational Centers
J Others, including local school districts, business and industry representatives, unions, Legislative leaders

Where agencies are listed, it is assumed that interagency cooperation will be achieved in implementing the desired recommendations.

Vocational-technical programs are designed primarily to prepare students for "entry-level" occupations. If jobs are not available, students who have acquired a rather narrow skill, and the taxpayer, may be shortchanged. Early acquisition of a skill and employability are emphasized in these programs. Because vocational-technical programs of less than baccalaureate degree are more closely related to the immediate manpower demands of local and state industry demands, it is recommended that:

20. no vocational-technical programming be initiated without strong evidence of student and local or state industrial manpower demands. Ongoing programs for which manpower and student demands have decreased (and are exceeded by the output of trained manpower) should be carefully reviewed to determine if they should be continued.

ACTION: Progress report, 1976: A,B,C,D,F,G.

Because vocational-technical programs are closely related to manpower demands, occupational areas which have large numbers of annual openings will necessitate instructional programs at multiple institutions to meet manpower and student needs. Conversely, occupational areas which have relatively few annual manpower needs will not require multiple training programs. It is therefore recommended that:

21. vocational-technical programs which have broad placement opportunities and student demands should be common to several institutions. Vocational programs which have relatively small occupational openings, or which are determined to be relatively specialized, should be the role assignment of an institution(s). In the latter case, such specialized programs should be located nearest that institution(s) which has the greatest industrial and/or student population demands.

ACTION: Progress reports, 1977: A,B,C,D,F.

Program Viability

Since vocational-technical "entry-level" programs are more specifically related to manpower demand than are baccalaureate level or graduate programs it may be difficult to justify such programs unless demands for trained personnel are evident. Moreover, vocational-technical programs are more expensive to operate than are two-year transfer programs. Thus, "entry-level" programs should graduate sizeable numbers of students if they are to be cost-effective. It is therefore recommended that:

22. once initiated, as a minimum, a program be subject to review for discontinuance if: (a) it does not maintain a three-year average of at least 10 certificates per year (one-year program); (b) a three-year average of at least 7 associate degrees (or other two-year awards) per year; or (c) other suitable evidence of viability.[*]

ACTION: Reports, 1976: A,B,C,D,E,F.

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[*]See Item No. 4, page 16.

Office of Education Codes

To assist the Regents in determining what constitutes a new vocational program requiring approval, it is recommended by the Task Force, with the enthusiastic support of the staff from the State Board for Vocational Education that:

23. less-than-baccalaureate vocational-technical programs be identified and approved with Office of Education Instructional Program designations and Code Number classifications.[51] All programs which specifically list new degree or certificate titles should not be considered as program options.

ACTION: Reports, 1977: A,B,C,D,F,G.

A.A.S. Degree

32

The Associate of Science (AS) and the Associate of Arts (AA) degrees generally allow for 48-55 credit hours in general education, and 41-48 credit hours in a specific discipline and/or related subject area. Associate of Science and Associate of Arts degree programs are considered to be transfer-oriented programs. Conversely, the Associate of Applied Science (AAS) degree usually specifies that approximately 25 percent (24 credit hours) of the courses for the degree be in general education, and the remaining 75 percent (72 credit hours) be in a specific discipline and/or related subject area. The AAS degree program is generally considered to be an "entry-level" program.[52] It is therefore recommended that:

24. the present utilization of the Associate of Science (AS) degree in vocational-technical educational disciplines be examined at institutions within the Utah System of Higher Education. The Associate of Applied Science (AAS) degree should be established as the sole associate level degree for vocational-technical subjects.[53]

ACTION: Reports, 1977: A,B,C,D.

Degree Award Definitions

Presently, a wide variety of awards is used in less-than-baccalaureate program, i.e., diplomas, certificates and associate degrees. Definitions of these awards vary from institution to institution. It is recommended that:

25. operational definitions be standardized for vocational-technical awards within the Utah System of Higher Education.

ACTION: Reports, 1977: A,B,C,D,F.

Certificate Definition

For employer understanding of skills acquired in a particular training program and for the quantifying of degree production data, the following definitions have been adopted by the Regents as the standardized awards denoting completion of specified educational programs. These are:

(a) **Certificates** — An institutional certificate should be awarded upon the successful completion of a program directly oriented toward job entry when the program is of a duration of 18 months or less (1-72 quarter hours, or other designations). Specificity in denoting the accomplishment in the program should be indicated by time, credit, or proficiency acquired following the terminology of the certificate, i.e., C(6 months, front-end alignment) or C(24 quarter hours, automotive mechanic). No standard general education requirement is specified.

(b) **Diplomas** — An institutional diploma should be awarded upon the successful completion of a program directly oriented toward job entry when the program is of duration of 19-36 months (75-144 quarter hours, or other designations). Specificity in denoting the accomplishment in the program should be indicated by time, credit, or proficiency acquired following the terminology of the diploma, i.e., D(24 months, medical technician) or D(96

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[51] This recommendation is in conformity with present practice. U.S., Department of Health, Education, and Welfare, Office of Education, Inc. cit.

[52] Board policy permits the transfer of AAS degree programs to four-year programs. See also Recommendation No. 6, page 16.

[53] This recommendation is in conformity with present Board policy. The lone exception is Nursing at the associate degree level.

quarter hours, distributive education). No standard general education requirement is specified.

(c) **Associate of Applied Science** — The program leading to the Associate of Applied Science degree is primarily oriented toward job entry and is normally designed for students who wish to complete a formal education in two years (96 quarter hours). Preparation for this degree includes theory courses, shop and laboratory activities, directed work experiences, and general education. No more than 25% of the required courses for an AAS degree should consist of general education, whether earned by the student or listed in the institutional catalog and schedule.

(d) **Bachelor of Technology Degree (BT)** — A degree granted upon completion of an educational program requiring four years (approximately 186 hours) preparation with course work completed in general education, electives, and major and minor requirements.

(e) **Associate of Arts, Associate of Science, Master's Degrees, Doctor's Degrees** — The Committee recommends the continuation of definitions as embodied in the Committee "L" report of the 1968 Utah Master Plan for Higher Education.

Program Clustering

With encouragement from the Regents, institutions of higher education have grouped related educational programs together for reasons of flexibility, quality, and cost-effectiveness. This permits a beginning student to take a standard program for an initial period of time and then spin off in the various occupations as the student progresses. Such an approach allows flexibility for the student who wishes, at a later date, to pursue a specialty. This concept is more cost-effective in that it utilizes the same core courses for a variety of specializations. The breadth of programs and the resources which can be focused on the various specializations should increase the quality of programs. It is recommended that:

26. whenever possible and practical, program roles be assigned to utilize the "cluster" concept, with specializations developed around a basic "core." For example, a general "midmanagement" or "marketing" program (general merchandising) could be considered as the "core" with a "cluster" of programs built around it in the "hospitality" area — hotel/motel/restaurant management and food production. Primary considerations in clustering should be to improve program quality, to give students opportunities for shifting emphases, to minimize duplication, while continuing to better serve students, industry, government, and business.

The Office of Education code designations group a number of similarly related occupations, and define a vocational-technical program which will train graduates for those particular occupations. Insofar as practical, this grouping of "families" of occupations is continued throughout the Office of Education code designations. It is recommended that:

27. "clustering" of programs within the Utah System of Higher Education utilize Office of Education code designations as a guide. Groupings assigned to particular institutions as a rule should follow the main subgroupings of the following categories: agriculture, distributive education, health occupations, home economics, office occupations, technical education, and trade & industrial occupations (See Appendix B). Further groupings within some Office of Education designations may be developed by the Board of Regents, (and where appropriate) the State Board for Vocational Education, and the institutions.

ACTION: Reports, 1976: A,B,C,D,F,G.

Emergency Manpower

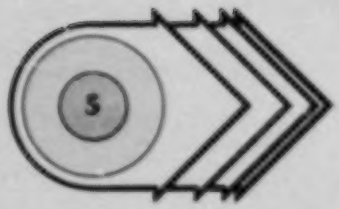
The review process for new programs can delay initiation. If the need for a manpower training program is immediate, the Task Force recommends that:

28. The Emergency Manpower Training Provision adopted by the State Board of Regents and the State Board for Vocational Education in December 1970, be restated. This provision, reproduced below, should be examined and revised periodically to ensure that it continues to meet its intended use. This policy states that:

The Commissioner of Higher Education and State Superintendent of Public Instruction are authorized to approve Emergency Manpower Training Programs at all institutions of higher education within the State System of Higher Education. Programs of longer duration than 12 months should be given final approval by the State Board of Regents. Approval of all Emergency Manpower Training Programs should be closely related to institutional role assignments, as designated by the State Board of Regents, and approval shall only be for the duration of each individual program. Such action shall be reported to the representative Boards at their next regularly scheduled meeting by the Commissioner of Higher Education and the State Superintendent of Public Instruction.

ACTION: 1975: F,G.

34



INSTITUTION—FACULTY

INSTITUTIONAL AND FACULTY FLEXIBILITY

Projections for a more stable student growth rate are predicted for the remainder of the decade of the seventies. As a result, faculty expansion at Utah institutions of higher education will, in all likelihood, stabilize. This is in contrast to the decade of the sixties, when faculty members doubled.

Although vocational-technical education may be affected by leveling faculty growth, it in all probability will be less influenced than other educational areas. Data in Figure 3 illustrate that technical college enrollments have increased more rapidly since 1967-68 than those of any other college or university in the Utah System. This increase likely is directly related to both the location and the course offerings of these colleges. State law limits them to "entry-level" programs. How the distribution of students among vocational-technical and nonvocational-technical programs will develop remains unknown. Projected manpower data seem to support the need for continued growth in this area.

A lack of growth in faculties has created problems for many institutions within the United States. With virtually no additional growth positions, new faculty are being hired only for replacement positions resulting from retirements or resignations. The "tenure" provisions which now operate in many U.S. institutions of higher education are also being questioned, viz. institutional flexibility. Opponents of tenure fear "stagnation" under periods of limited faculty growth unless properly administered. If the awarding of tenure is not monitored, it is possible for an institution to award tenure to nearly all of its faculty — thereby reducing the flexibility of the institution. The situation of being "tenured-in" is obviously detrimental to an institution for several reasons: first, it is more difficult to hire new faculty to respond to the changing needs and demands of society; second, the reduction of new faculty diminishes the infusion of new blood into the institution; and third, a tenured, more senior faculty imposes a greater financial burden.

Nevertheless, sufficient freedom exists within tenure provisions that Utah institutions should be able to retain the positive aspects of tenure without an accompanying loss of flexibility. For example, tenure provisions permit a probationary period of up to seven years before awarding tenure — thereby reducing the number of tenured faculty. Moreover, tenure provisions permit faculty to be released for "bona fide" reasons, i.e., (a) discontinuance of a program of instruction, and (b) financial exigency.

Finally, tenure may be used to "upgrade" the quality of faculty at an institution through a thorough and critical examination of each faculty member before awarding him or her tenure. Such an examination implies that not all nontenured faculty members will be granted tenure. By a concerted effort on the part of administration and faculty, institutions should be able to respond to the changing needs and demands of society, making it possible for vocational-technical educators to utilize the tenure system prudently and thereby maintain necessary flexibility in program offerings. In view of the more direct relationship between vocational-technical offerings and occupational openings (manpower demand), it is critical that vocational-technical education maintain such flexibility.

UPGRADING OF FACULTY COMPETENCIES

After an institution has carefully screened its faculty members, both prior to hiring and awarding tenure, it is critical that the competencies of such a quality faculty be maintained and/or upgraded. The institution can assist by creating the atmosphere and reward system which stress the importance

of faculty competency and quality instruction — instruction which prepares students for employment opportunities and graduates who can relate to the world in which they live.

Faculty members should participate in a variety of experiences which will upgrade their technical skills, as well as improve instructional and/or administrative techniques. For example, faculty members should be encouraged to participate in the "in-service" training offered by business, industry, government, labor, or by other educational agencies. Attendance at conferences, seminars, or other vocational or educational meetings should be encouraged both via released time, travel, and other financial commitments. Related sabbatical leave should be encouraged for formal education or for business, industry, or government experience.

To assist faculty members in upgrading instructional competencies, the institution should provide a procedure for annual faculty evaluation. Such evaluations could utilize a number of measuring devices; e.g., student evaluation of faculty, peer evaluation, student performance, etc. *The Task Force highly recommends an annual evaluation for tenured as well as for nontenured faculty members.*

Participation on campus by personnel from business, industry, government, and labor groups can enhance faculty competencies and improve instruction. If business, industry, government, or labor groups cannot permit released time for employees to teach, institutions may be able to obtain services from these personnel on an "overload" or "after-hours" basis.

Another method for involvement of personnel from these sectors is through the use of occupational advisory committees. If personnel directly involved with actual employment situations can function as advisors for educational programs in the respective occupational area, the quality of the instructional training can be further enhanced. Advisory committees can provide a better understanding of skills to be developed in the training programs. These advisory groups can also provide indicators of changes in job demands. This type of involvement has an added positive effect in that the institution and the community develop strong interrelationships.

Institutions should assist in creating an atmosphere conducive to maintaining and upgrading faculty competency (quality instruction) by fostering an open, responsive, and positive attitude toward change. In addition to recommendations made in earlier sections regarding more flexible policies toward "open-entrance, open-exit, self-paced instruction," the State Board of Regents and the Utah institutions of higher education should openly encourage and reward innovative approaches, exemplary pilot programs, and appropriate instructional development affecting vocational-technical programs.

ARTICULATION — FACULTY, INSTITUTIONAL, AND BOARD RESPONSIBILITIES

One of the continuing problems in education is to interface instructional programs at various levels so that transfer is possible among and between systems and instructional levels. In Utah, programs in the public school system from grades K through 12 are directed by the State Board of Education and individual local school boards.

Historically, colleges and universities in the United States have maintained individual autonomy. Therefore, articulation problems have occurred during the transition from the secondary schools to postsecondary institutions, as well as transfer among the various postsecondary institutions themselves.

Because some confusion yet exists as to who has articulation responsibilities between secondary and postsecondary institutions, further clarification, with recommendations, appears necessary. Postsecondary educators have always had and should continue to have responsibility for curriculum design and course content within their sphere of expertise. In approving programs and roles, the Office of the Commissioner has strongly supported this basic premise. *The Task Force for Vocational-Technical Education also has held as a basic tenet that the responsibility of the postsecondary institution is for course content and basic curricular design.* Faculties are directly responsible for instruction to students and are specifically trained in particular skill areas and instructional methods. Faculties also receive direct input from occupational advisory committees regarding training requirements. These individuals therefore should be considered as the "experts" regarding course content and basic curricular design required for any given training program.

On the other hand, experience has demonstrated the need for a single postsecondary agency to coordinate the development of postsecondary programs. Only this way may the availability of educational opportunities be assured for all qualified students, without unnecessary duplication and a consequent waste of state resources."[4] The State Board of Regents was created to accomplish this purpose. The Task Force, in agreement with Senate Bill 10, *reaffirms that the responsibility of the State Board of Regents should continue to be program, role, and degree approval; statewide perspective; and statewide master planning in postsecondary education.* Since postsecondary institutions compete with other institutions and agencies for state financing programs, students, etc., the committee feels that a single agency is necessary to coordinate postsecondary educational programs from a statewide perspective.

The Task Force also supports the premise that the responsibility of the State Board for Vocational Education is to approve postsecondary curricula to ensure articulation with high schools and area vocational centers. By providing staff assistance to the Board of Regents in Master Planning for vocational-technical education, the vocational board satisifes the requirements of Senate Bill 10. The responsibilities delineated in this subsection are summarized in Figure 8.

RECOMMENDATIONS

Following each recommendation, ACTION items are included. This listing established a target date for the implementation of the recommendation. *Prior to July 1 of the year listed,* a report from each institution (or agency) should be forwarded to the Office of the Commissioner covering all recommendations scheduled for implementation during that year.

LEGEND

A Technical Colleges
B Community Colleges
C Four-Year State Colleges
D Utah State University
E University of Utah
F State Board of Regents
G State Board for Vocational Education
H Private and Proprietary Institutions
I Area Vocational Centers
J Others, including local school districts, business and industry representatives, unions, Legislative leaders

Where agencies are listed, it is assumed that interagency cooperation will be achieved in implementing the desired recommendations.

Because increased program flexibility is necessary to meet the changing needs of students, business, industry, government, and labor, it is therefore recommended that:

29. institutions offering vocational-technical programs maintain advisory committees with broad representation, primarily from management and labor. These should include general advisory committees for each institution as well as special committees for each occupational area. These committees should assist in maintaining accurate and current data from employers, i.e., occupational openings, skills required, and manpower needs;

ACTION: Reports, 1977: A,B,C,D.

30. the Utah State Board of Regents encourage innovative approaches, exemplary programs, and appropriate instructional development affecting vocational-technical programs. Each institution within the Utah System of Higher Education should adopt policies which permit more flexibility when hiring new faculty. Consistent with role responsibility, institutions should hire faculty with unique qualifications and strengths not existent at the institution. Institutions should maintain *reasonable ratios* of nontenured/tenured faculty thereby strenthening the ability of the institution to respond to new program directions by avoidance of "tenuring-in" problems, negating flexibility which is required in meeting vocational-technical program needs.

ACTION: Reports, 1977: A,B,C,D,F.

Faculty competency should be maintained and further upgraded. This responsibility rests both with the institution and with the individual faculty member. To assist in upgrading faculty competency, it is recommended that:

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[4]Utah, Coordinating Council of Higher Education, *Roles and Curriculum*, op. cit., p. 6.

FIGURE 8

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FLOW DIAGRAM FOR POSTSECONDARY VOCATIONAL-TECHNICAL PROGRAM INITIATION AND ARTICULATION

STUDENTS, BUSINESS, GOVERNMENT, INDUSTRY, LABOR, DEPT. OF EMPLOYMENT SECURITY, MANPOWER PLANNING COUNCIL, UTAH ADVISORY COUNCIL FOR VOCATIONAL-TECHNICAL EDUCATION, ETC
DATA INPUT
STATE BOARD OF REGENTS & STAFF
Responsible for program, role, and degree approval and for statewide perspective (e.g., student, government, industry, business, and labor), Statewide Master Planning
PHASE I & II DATA
(SBVE approval of curricula for articulation)
STATE BOARD FOR VOCATIONAL EDUCATION AND STAFF
Responsible for approval of postsecondary curricula for the purposes of articulation with high schools and AVC's. Assistance in support of Master Planning in Voc-Tech Education.
PROGRAM REQUEST
PHASE I & II DATA (Approval or Denial)
DATA INPUT
POSTSECONDARY INSTITUTIONS
Responsible for course content, curricular design, local institutional perspective (e.g., local manpower and student needs)
SECONDARY/ POSTSECONDARY DIALOGUE
(Articulation)
HIGH SCHOOLS AND AREA VOCATIONAL CENTERS (SECONDARY)
DATA INPUT
(e.g., local manpower and student needs, training requirements)
LOCAL ADVISORY COMMITTEES, BUSINESS, LABOR, INDUSTRY, AND GOVERNMENT

31. a) faculty members be encouraged to take the initiative to participate in business- and industry-sponsored workshops and training sessions;

b) institutional in-service training be provided for vocational-technical education faculty, staff, and administrators;

c) institutions devise a procedure for annual faculty evaluations;

d) travel budgets be provided so that faculty can attend state, regional, or national meetings which will assist in the upgrading of skills;

ACTION: Progress report, 1976 (a-d): A,B,C,D.

e) sabbatical leave policies be further developed for vocational-technical faculties. Policies should be developed which will permit flexibility in maintaining or upgrading faculty skills through exchange programs, formal education, experience in business and industry, and other skills training experiences; and

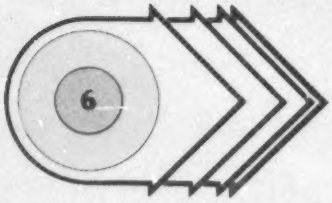
f) institutions assume the major responsibility for creating an atmosphere which stimulates faculty to upgrade themselves so as to create quality learning experiences for students.

ACTION: Progress reports, 1977: A,B,C,D,F.

Articulation between secondary and postsecondary vocational-technical education programs must be further facilitated. As stated in Senate Bill 10: "In making decisions relating to curriculum changes, the Board (Regents) shall receive the approval of the State Board for Vocational Education for an orderly and systematic vocational education curriculum to be established to eliminate overlap and duplication of course work with the high schools and area vocational centers." It is therefore recommended that:

32. the Office of the Commissioner continue to forward all vocational-technical education program requests to the State Board for Vocational Education for purposes of articulation. Approval of the State Board for Vocational Education relative to articulation of curricula of postsecondary programs with secondary programs (high school and AVC's) should be communicated to the Office of the Commissioner. According to Senate Bill 10, the State Board for Vocational Education approves vocational-technical curricula for the purposes of articulation and provides assistance in support of Master Planning in vocational education. The State Board of Regents is responsible for program, role, and degree approval. Institutional personnel are responsible for curricular design and course content, consistent with the above-stated responsibilities. To further facilitate coordination, the staffs of the State Board of Regents and the State Board for Vocational Education should work toward further refinement and development of common reporting procedures.

ACTION: 1976; F,G.



FINANCES — FACILITIES

ENROLLMENT AND FINANCIAL TRENDS OF VOCATIONAL-TECHNICAL EDUCATION

Since 1971-72, the *combined FTE enrollment in the community and four-year colleges (seven institutions)* has *decreased* by approximately one percent. In contrast, the combined FTE enrollment in the two technical colleges has increased by 37.9 percent (Table 2).

Enrollment in vocational-technical programs throughout the System has not increased that rapidly, however. While data in Table 3 reveal selective growth at the technical colleges, a decrease in *vocational student enrollments* has occurred in the community colleges and four-year institutions. The combined FTE enrollment in *vocational education* at the two technical colleges since 1972-73[65] has *increased* by 809, while the *combined FTE enrollment* in vocational education in the other colleges and universitites has *decreased* by 172. Hence, the percentage of the System's total FTE enrollment attending the technical colleges has increased from 10.9 percent to 12.4 percent in two years, but the percentage of the System's total FTE enrollment in *vocational-technical fields* has increased somewhat more slowly — 15.9 percent in 1972-73 to 16.9 percent in 1974-75. It may be noted that the total FTE enrollment increase in the Utah System of Higher Education since 1972-73 (1,444) has been composed of nearly one-half *vocational* (649) and one-half *nonvocational* students (797). Whether future growth of the technical college will be in real numbers as experienced recently, or whether such growth will coincide with a continued decline in vocational-technical students in the other institutions, is unknown.

The current situation of stabilizing enrollments in the total system of higher education, with potential realignments of student populations among institutions, could have implications for financing of Utah higher education.

The financing of Utah postsecondary education, including vocational-technical education, has been the specific assignment of the Postsecondary Education Finance Task Force. Thus, the report of the Finance Task Force should be reviewed in conjunction with Section VI of this report.

PROGRAM CHANGES — FUNDING FOR NEW PROGRAMS

Data in Table 1 indicate that vocational-technical training will play an even more important role in providing job opportunities during the next decade. Significant changes are expected in Utah's economy, including an expanded emphasis upon energy resource development within the state. This stresses the need to be responsive to expanding areas of employment in which Utah's citizens are potential long-term employees.

However, if Utah's economy fails to expand as forecast, or if postsecondary enrollments become static, it will be difficult to initiate new programs (while preserving existing program quality in the face of inflation) unless unneeded or unwarranted programs are terminated. Thus, periodic reviews of existing programs are essential.

New procedures may also have to be adopted to initiate new programs on federal monies. The use of federal finance has both positive and negative aspects. If federal funds are used to initiate new programs, it is easier to phase-out the program when federal dollars are terminated. Federal funds also give the state flexibility to attempt needed new programs when state funds are not available. Conversely, unless it is explicitly understood that there is no guarantee of state funds should federal dollars be terminated, unfulfilled expectations often develop. It appears wise therefore to utilize

[65]Enrollment data in 1971-72 were not compiled to show vocational-technical and nonvocational-technical enrollments.

TABLE 2

COMPARISONS OF FTE ENROLLMENTS WITH APPROPRIATIONS TO POSTSECONDARY INSTITUTIONS

(Education & General Resources — Excluding Line Items)

Institutions	1971-72	1974-75	Percentage of Change over Period
Combined Community and Four-year Colleges and Universities			
FTE enrollment	39,483	39,084	− 1.0%
Percentage of total System enrollment	(90.3%)	(86.9%)	
Appropriations	$39,402,000	$58,181,000	+47.7%
Percentage of total System appropriations	(93.2%)	(91.6%)	
Combined Technical Colleges			
FTE enrollment	4,254	5,866	+37.9%
Percentage of total System enrollment	(9.7%)	(13.1%)	
Appropriations	$ 2,885,000	$ 5,333,250	+84.9%
Percentage of total System appropriations	(6.8%)	(8.4%)	
Utah System of Higher Education Totals			
FTE enrollments	43,737	44,950	+ 2.8%
Percentage of total System enrollment	(100.0%)	(100.0%)	
Appropriations*	$42,287,000	$63,514,250	+50.2%
Percentage of total System appropriations	(100.0%)	(100.0%)	

*Education & General Resources — excluding line items.

Source: Data from the Office of the Commissioner of Higher Education.

TABLE 3

ENROLLMENTS IN VOCATIONAL-TECHNICAL AND NONVOCATIONAL-TECHNICAL PROGRAMS WITHIN THE UTAH SYSTEM OF HIGHER EDUCATION [a]

Instructional Programs	1972-73	1973-74	1974-75
Combined Community and Four-year Colleges and Universities			
Vocational-technical enrollment [b]	2,181	2,191	2,019
Percentage of total System enrollment	(5.0%)	(5.1%)	(4.5%)
Nonvocational-technical enrollment	36,369	35,906	37,065
Percentage of total System enrollment	(83.6%)	(82.9%)	(82.5%)
Combined Technical Colleges			
Vocational-technical enrollment	4,745	4,917	5,554
Percentage of total System enrollment	(10.9%)	(11.3%)	(12.4%)
Nonvocational-technical enrollment	211	299	312
Percentage of total System enrollment	(0.5%)	(0.7%)	(0.7%)
Utah System of Higher Education Totals			
Vocational-technical enrollment	6,926	7,108	7,573
Percentage of total System enrollment	(15.9%)	(16.4%)	(16.9%)
Nonvocational-technical enrollment	36,580	36,205	37,377
Percentage of total System enrollment	(84.1%)	(83.6%)	(83.1%)
Total enrollments	43,506	43,313	44,950

a FTE enrollments.

b Data corrected for Weber State College and Southern Utah State College from previous publications from the Commissioner's Office. Vocational-technical enrollments unavailable for 1971-72.

Source: Data from the Office of the Commissioner of Higher Education.

federal funds to a limited extent in initiating new vocational-technical programs -- always emphasizing that no state funds are guaranteed at the cessation of federal dollars.

SKILLS CENTERS

The two federally supported skills centers in Utah provide a service to select students in the state that is not currently being performed by any other educational agency or institution. These centers appeal to students who have not succeeded in other more conventional educational settings. Students in these centers are having exceptional success. Hence, continuation of the skills centers appears highly desirable. It is not assumed that these centers should be entirely state-supported. If financial support is discontinued at the federal level, the state should carefully consider continuation of the centers through state support.

FACILITIES

Figure 9 locates Utah's postsecondary institutions, area vocational centers, skills centers, and the district vocational centers. High schools, and private and proprietary institutions offering vocational curricula are not included in this Figure. Radii of 25 miles have been drawn around facilities to indicate an approximate "commuting" distance for students served by these institutions and centers.

It is obvious that there are some regions of the state which are not within 25 miles of a postsecondary institution, a skills center, or an area or district vocational center. The existing facilities for secondary and postsecondary vocational education are within a 25-mile distance for over 90 percent of the state's population, but the question remains as to how to provide vocational-technical education to the more rural portions of the state (particularly, postsecondary instruction).

NEW FACILITIES PLANNED

The 1975 General Session of the Utah Legislature passed a bonding bill for educational facilities within the Utah System of Higher Education (Senate Bill No. 236). Some $20,210,000 are scheduled to be spent for vocational-technical education facilities. These funds will be expended in the following manner:

College of Eastern Utah	
Career Center	$1,710,000
Dixie College	
Vocational Building — Phase II	$,200,000
Utah Technical College/Salt Lake	
Construction Trades Building	4,200,000
Utah Technical College/Provo	
Building Program — Phase II	8,000,000
Utah State Board of Education	
Sevier Valley Technical Center	2,550,000
Uintah Basin Area Vocational Center	2,550,000
TOTALS — Vocational-Technical Education	$20,210,000[66]

These additions will increase the facilities available in select rural sections of the state, as well as at exisiting urban institutions and centers.

ENERGY AND OTHER RESOURCE DEVELOPMENT

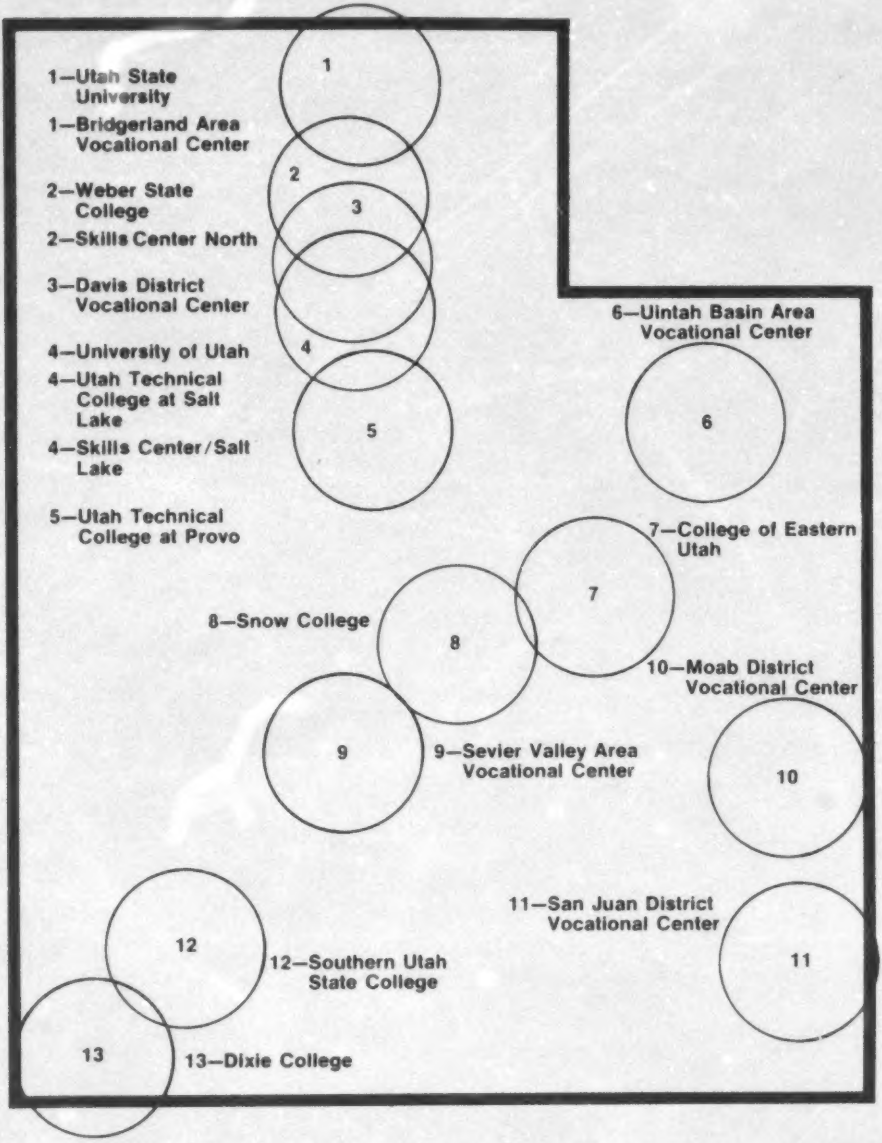
The Task Force is cognizant of the potential impact of energy and resource development upon the state's economy. If the Governor's projection that the state's population could increase by as much as 30 to 40 percent by 1985 comes into fruition, a sizable increase in postsecondary enrollment is anticipated.[67] Moreover, a number of specialized offerings may be required related both to energy

[66]Utah, 1975 General Session of the Utah Legislature, Senate Bill No. 236, State Building and Expansion Program (Salt Lake City: March, 1975), pp. 2-3.

[67]Governor Calvin L. Rampton, Speech given to Kiwanis Club, Hotel Utah, Salt Lake City, May 8, 1975.

FIGURE 9

POSTSECONDARY INSTITUTIONS, VOCATIONAL CENTERS, AND SKILLS CENTERS



and resource development in addition to the creation and construction of new facilities and new communities.

The Task Force has elected *not* to address specific recommendations to this issue. Affixing role responsibilities at postsecondary instititutions by the State Board of Regents should facilitate institutional responsiveness to the needs of students, labor, government, business, and industry. Institutional Advisory Committees have also been recommended to provide a direct input from management and labor. Finally, this document recommends that programs be initiated in response to geographical needs.

RECOMMENDATIONS

Following each recommendation, ACTION items are included. This listing establishes a target date for the implementation of the recommendation. *Prior to July 1 of the year listed*, a report from each institution (or agency) should be forwarded to the Office of the Commissioner covering all recommendations scheduled for implementation during that year.

LEGEND

A Technical Colleges
B Community Colleges
C Four-Year State Colleges
D Utah State University
E University of Utah
F State Board of Regents
G State Board for Vocational Education
H Private and Proprietary Institutions
I Area Vocational Centers
J Others, including local school districts, business and industry representatives, unions, Legislative leaders

Where agencies are listed, it is assumed that interagency cooperation will be achieved in implementing the desired recommendations.

Presently, enrollments in vocational-technical programs are expanding more rapidly than enrollments in other postsecondary programs. Persons with vocational-technical training remain in high demand. Labor market projections for the next decade place high importance upon vocational-technical training. Therefore, it is recommended that:

33. the Utah State Board of Regents and the State Board for Vocational Education continue to seek funding for vocational-technical educational programs in postsecondary institutions consistent with business, industrial, and societal needs. Such increased emphasis will require careful analysis of existing and proposed new programs. Careful consideration of fundamental institutional differences and role responsibilities is imperative.

ACTION: 1975-85: F,G,J.

In order to qualify for continual federal vocational-technical funding, legislation dicatates *that the portion of state budgets expended for vocational education not decline over a two-year period. Because the utilization of federal funds beyond this consideration is a prerogative of the state, the Task Force supports the Utah State Board for Vocational Education recommendation*

34. "to amend the State-Federal Plan for Vocational Education to more closely relate the allocation of federal funds to postsecondary institutions to the expanding industrial development and related employment: Federal funds now distributed to postsecondary institutions and area centers on formula would be allocated to vocational-technical programs which are related to expanding areas of employment in which Utah's citizens are potential long-term employees and which have high potential for impact on the state's economy." (State Board for Vocational Education Minutes, November 15, 1974)

To implement this recommendation, budgets prepared by postsecondary institutions and the Office of the Commissioner should carefully consider how federal vocational-technical funds can best be utilized to meet student and job-preparation needs of our expanding economy.

ACTION: Progress reports 1976: A,B,C,D,F.

One of the more difficult aspects of present economic uncertainties is the question of how to initiate new instructional programs to meet rapidly changing manpower needs. Shifts in existing programs will be necessary to ensure dollars for new programs. Federal funds might also be better utilized in initiating new programs. The Task Force recommends that:

35. the State Board of Regents and the State Board for Vocational Education work cooperatively to provide adequate state and federal funding for viable existing and essential new vocational-technical programs. As stated in an earlier recommendation, federal funds should be allocated on a priority basis to programs in expanding occupational areas of high potential employment for the state. If new programs are initiated utilizing federal funds, no state dollars should be automatically guaranteed at a future date. This should facilitate the discontinuance of those programs which prove to be nonviable.

ACTION: 1975: F,G.

The Skills Centers at Salt Lake and Ogden currently provide unique educational programs for important segments of Utah's population not being served by other more conventional programs. These centers function primarily to serve the student who is disadvantaged or who has been unable to succeed in other more traditional educational settings. It is therefore recommended that:

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36. the Utah State Board of Regents and the Utah State Board for Vocational Education carefully review and consider the unique functions of the Skills Centers at Weber State College and Utah Technical College/Salt Lake. Because these programs offer a unique service to Utah residents which is not being offered by any other educational institution, special consideration should be given to ways of maintaining and further developing their character. Also, it is recommended that the respective Boards, if federal funds are unavailable, request the Utah State Legislature to provide funding for these centers. Students involved with secondary and postsecondary programs in the Skills Centers should be assisted by state dollars when federal funds are not available on the same basis as are students in more traditional educational programs.

ACTION: 1976: A,C,F,G.

APPENDIX A

LESS THAN BACCALAUREATE DEGREE VOCATIONAL-TECHNICAL PROGRAMS OFFERED BY UTAH INSTITUTIONS

Office of Education Code Designation and Program Area	UTC/SL	UTC/P	CEU	Dixie	Snow	SUSC	WSC	UBU	U of U
Agriculture 01.01 Agricultural Production						Agriculture Technology			
01.0101 Animal Science								Dairy Technology [b]	
01.03 Agricultural Mechanics					Agr.Bus/Tech Mechanics			Ag. Machine Technology	
01.04 Agricultural Processors					Agr.Bus/Tech Business				
01.05 Ornamental Horticulture								Vocational Horticulture	
Distributive Education 04.02 Apparel & Accessories		Fashion Merchand. [a]					Fashion Merchand.		
04.03 Automotive			Auto Parts Merchand.						
04.06 Food Distribution							Food Distribution		
04.07 Food Service	Hosp. Mgt. Food Service	Rest. Mgt.					Food Service		
04.09 General Merchandising	Marketing Business Mgt.	Marketing Business Mgt.	Business Mgt.	Business Mgt. Gen. Merch.	Business Adm.		Sales & Retail	Diamond b Merchand.	
04.10 Home Furnishing							Interior Design		
04.11 Hotel/Motel	Hotel/Motel	Hotel/Motel							
04.16 Petroleum		Petroleum Mgt.							
04.19 Transportation	Trans. Mgt. [b]	Prof. Driving [a]							
Health Occupations Education 07.0101 Dental Assisting		Dental Asst.					Dental Asst. [c]		
07.0102 Dental Hygiene							Dental Hygiene [b] (3-yr.)		
07.02 Medical Lab. Technician							Med. Lab Technician		
07.0201 Registered Nursing	RN [c]			RN [c]		RN [c]	RN	RN [c]	
07.0202 Licensed Practical Nursing	LPN	LPN [c]	LPN	LPN		LPN [c]	LPN		
07.0203 Nurse Aide	Nurse Aide Less than 1 yr.	Nurse Aide Less than 1 yr.							
07.0304 Psychiatric Aide		Human Services							Mental Health Aide [d]
07.0306 Operating Room Technician	Op. Rm. Tech								
07.0308 Nursing, Other	Ward Clerk Less than 1 yr.	Ward Clerk Less than 1 yr.							
07.0601 Radiologic Technician		Radiologic Technician c					Radiologic Technician		Radiologic Technician
07.0805 Inhalation Therapist							Respiratory Therapist		
Home Economics 08.01 Homemaking					Family Life				
08.0102 Child Development							Child Devel.		
08.0201 Care & Guidance of Children				Nursery Aide [a]		Nursery School			
Office Occupations 14.0101 Accounting	Accountant Bus. Mgt. Acct.	Accnt. Clerk Cr. Accnt.	Accountant						
14.02 Data Processing	Data Processing	Bus. Data Processing					Data Processing		
14.0701 Executive Secretary	Ex. Sec.								
14.0702 Secretary		Sec., Legal Sec. Med. Sec.	Secretarial	Secretarial	Secretarial	Secretarial	Secretarial Science	Secretarial [a]	Secretarial d Training
14.0703 Stenographer	Stenographer	Stenographer	Stenographer						
14.0805 Office Administration					Office Mgt.	Office Mgt.	Office Adm.		
14.0901 Clerk-typists	Gen. Clerk Typist	Clerk Typist	Clerical Type	Clerk Typist [a] Clerical	Clerical	Clerical Typist			
Technical Education 16.0103 Architectural Technology	Arch. Drafting Technology	Arch. Op. Draft & Design		Arch. Drafting Technology					
16.0105 Civil Technology			Civil Engr. Technology	Surveying Less than 1yr.					Civil Engr. d Technology
16.0111 Industrial Technology			Industrial Mechanics				Manufacturing Technology		Ind.Engr. Technology
16.0113 Mechanical Technology									Mech. Engr. Technology
16.0117 Scientific Data Processing									Computer Sci. Technology
16.0139 Electromechanical Tech		Elec. & Auto Tech Electromechanics							
16.0199 Mining Technology			Mining Technology						

a. Programs listed in the institutional catalogs as independent curricula. No Board approval.
b. Programs have been approved by the Regents, but are now in the operational.
c. Programs operated as cooperative programs.
d. Programs are offered through the Institute for Technological Training or other departments on campus. No Board approval.

APPENDIX A
(CONTINUED)

LESS THAN BACCALAUREATE DEGREE VOCATIONAL-TECHNICAL PROGRAMS OFFERED BY UTAH INSTITUTIONS

Office of Education Code Designation and Program Area	UTC/SL	UTC/P	CEU	Dixie	Snow	SUSC	WSC	USU	U of U
Trade & Industrial Occupations	Major Appliance Repair								
17.02 Appliance Repair									
17.0201 Body & Fender	Auto Body—Auto Paint	Auto Body		Auto Body Repair&Paint			Auto Body		
17.0202 Mechanics	Auto Mechanics	Auto Mechanics	Auto Mechanics	Auto Mechanics	Auto Mech & Serv. Tech.	Auto Tech Certificate	Auto Tech Auto Service	Auto Technology	
17.0203 Specialization	Rec. Vehicle Repair								
17.0401 Aircraft Maintenance				Airframe & Power Plant				Aeronautics Technology	
17.0499 Other Aviation				Airline Flight Attendant					
17.07 Commercial Art	Comm. Art	Comm. Art Graph Comm.Tec				Commercial Art & Design			
17.1001 Carpentry	Building Constr	Gen. Constr Carpentry			Carpentry & Const. Tech	Construction Technology	Carpentry & Millwrg		
17.10001 Maint. of Heavy Equip.	Heavy Duty Mech./Const.Hwy	Diesel & Heavy Duty Mech.							
17.10002 Operation, Heavy Equip	Oper. Heavy Equip. b,c	Oper. Heavy Equip. b,c							
17.1004 Masonry	Brick Masonry								
17.11 Custodial Service		Building & Grounds							
17.12 Diesel Mechanics	Heavy Duty Mech.Diesel	Diesel & Heavy Duty Mech					Diesel Serv Diesel Tech	Auto & Diesel	
17.13 Drafting	Draft. Design Technology	Draft. Design Technology		Engr. Drafting	Drafting Technology	Draft. Comm. Art. Design	Engr. Graphics (4 spacs.)	Technical Drafting	
17.14 Electrical Occupations	Electricity								
17.1401 Industrial Electricity							Industrial Electricity		
17.15 Electronics	Electronics	Electronics Technology		Electronics Technology	Elec Technician Elec Technicl	Electronics Technology	Elec Serv Tech.El. Tech		Electronics c Engr. Tech
17.1503 Radio-Television		Elect Tech. c TV Repair							
17.19 Graphic Arts	Printing	Comm.Art/Graph Comm.Tech.		Printing a					
17.2101 Instrument Repair		Bus.Mach.& Instrm.Techns					Instrument Repair		
17.2102 Watches		Watch Repair a							
17.2302 Machine Shop	Machine Shop		Machine Shop						
17.2303 Machine Tool		Machine Tool Technology					Machine Tool		
17.2304 Metal Trades						Metal Fab. Technology			
17.2306 Welding	Welding	Welding	Welding		Welding Techn. Welding Tech		Welding	Welding Technician	
17.2601 Barbering	Barbering & Hair Styling								
17.2602 Cosmetology	Cosmetology		Cosmetology				Cosmetology		
17.2801 Fireman		Fire Science							
17.2802 Law Enforcement Training						Police Sci Technology	Police Sci Technology		
17.29 Quantity Foods	Food Services						Food Service		
17.2903 Meat Cutter								Vocational a Meat Service	
17.30 Refrigeration	Refrigeration & Air Cond.	Refrigeration & Air Cond.							
17.33 Textile Prod. & Fabrication	Apparel Mfg. Less than 1yr	Power Sewing Less than 1 yr							
17.3601 Millwork & Cabinet		Millwork-Cab. &Fin Making					Carpentry & Millwrg		
Additional									
									Soc Welfare d Aides

a. Programs listed in the institutional catalogs as independent curricula. No Board approval.
b. Programs have been approved by the Regents, but too new to be operational.
c. Programs operated as cooperative programs.
d. Programs are offered through the Institute for Technological Training or other departments on campus. No Board approval.

Sources: Institutional catalogs, 1974-75.
U.S. Departments of Health, Education, and Welfare and of Labor Manpower Administration, [illegible]. Washington, D.C.: U.S. Government Printing Office, 1969.

APPENDIX A
(CONTINUED)

LESS-THAN-BACCALAUREATE DEGREE VOCATIONAL-TECHNICAL PROGRAMS OFFERED BY PRIVATE AND PROPRIETARY INSTITUTIONS

Private

Brigham Young University

Business Technician* (O.E. 04.08)
Chemical Engineering Technician (O.E. 16.0105)
Civil Engineering Technician* (O.E. 16.0106)
Data Processing Technician*(O.E. 14.02)
Drafting Technician* (O.E. 17.13)
Electrical Technician*(O.E. 17.14)
Electronics Technician* (O.E. 17.15)
Family Living* (O.E. 09.02)
Graphic Arts Technician* (O.E. 17.19)
Law Enforcement* (O.E. 17.2802)
Library Technician (O.E. 14.0399)
Light Building Construction* (O.E. 17.1001)
Materials Science Technology (O.E. 16.0111,16.01)
Nursing* (O.E. 07.0301)
Photo Technician (O.E. 17.0901)
Piano Technician (O.E.)
Public Health (O.E.)
Secretarial Technician* (O.E. 14.0702
Welding Technician* (O.E. 17.2306)

Westminster College

Aviation (O.E. Code 17.0402)

Proprietary

Program Areas	Numbers of Programs	Number of Institutions
Aviation	59 programs	14
Business	63 programs	9
Cosmetology	17 programs	17
Barbering	2 programs	2
General Education	10 programs	12
Medical Related	21 programs	9
Modeling	13 programs	4
Trade & Industrial	18 programs	12

*Programs also offered in these areas within the Utah System of Higher Education.

APPENDIX B

GROUPING OF VOCATIONAL-TECHNICAL PROGRAMS ACCORDING TO OFFICE OF EDUCATION CODE DESIGNATIONS

50

Agriculture — 01.00 00 00

01.01	Agricultural Production	01.06	Agricultural Resources (Conservation, Utilization, & Services)
01.03	Agricultural Mechanics	01.07	Forestry
01.04	Agricultural Products	01.99	Agriculture/Other
01.05	Ornamental Horticultrue		

Distributive Education — 04.00 00 00

04.01	Advertising Services	04.12	Industrial Marketing
04.02	Apparel & Accessories	04.13	Insurance
04.03	Automotive	04.14	International Trade
04.04	Finance & Credit	04.15	Personal Services
04.05	Floristry	04.16	Petroleum
04.06	Food Distribution	04.17	Real Estate
04.07	Food Services	04.18	Recreation & Tourism
04.08	General Merchandise	04.19	Transportation
04.09	Hardware, Building Materials, Farm & Garden Supplies/Equipment	04.20	Retail Trade/Other
		04.31	Wholesale Trade/Other
04.10	Home Furnishings	04.99	Distributive Education/Other
04.11	Hotel/Lodging		

Health Occupations — 07.00 00 00

07.01	Dental	07.06	Opthalmic
07.02	Medical Laboratory Technician	07.07	Environmental Health
07.03	Nursing	07.08	Mental Health Technician
07.04	Rehabilitation	07.09	Miscellaneous Health Occupations
07.05	Radiologic	07.99	Health Occupations Education/Other

Home Economics — 09.00 00 00 [a]

09.01	Homemaking, Preparation for Personal, Home & Family Living	09.02	Occupational Preparation
		09.0201	Care & Guidance, Children
09.0101	Comprehensive	09.0202	Clothing Management, Production, Services
09.0102	Child Development		
09.0103	Clothing & Textiles	09.0203	Food Management, Production, Services
09.0104	Consumer Education		
09.0105	Family Health	09.0204	Home Furnishings, Equipment, Services
09.0106	Family Relations		

[a] Homemaking (09.01) is not a job-preparation skill, and technically does not fit under vocational education definitions. Perhaps it should be listed under a general education title. On the other hand, Occupational Preparation (09.02) has a number of listings which are included under other vocational titles (clothing management, production; food management; and home furnishings).

09.0107 Foods & Nutrition
09.0108 Home Management
09.0109 Housing & Home Furnishings
09.0199 Homemaking/Other
09.0205 Institutional Home Management, Support Services
09.0299 Occupational Preparation/Other

Office Occupations — 14.00 00 00

14.01 Accounting & Computing Occupations
14.02 Business Data Processing Systems
14.03 Filing, Office Machines, & General Office Clerical
14.04 Information Communications Occupations
14.05 Materials Support Occupations (Transportation/Storing)
14.06 Personnel Training & Related Occupations
14.07 Stenographic, Secretarial, & Related Occupations
14.08 Supervisory & Administrative Management Occupations
14.09 Typing & Related Occupations
14.09 Typing & Related Occupations
14.99 Office Occupations/Other

Technical Education — Engineering Related Technology — 16.00 00 00[b]

16.01 Engineering Related Technology (Aeronautics, Agricultural, Architectural, Automotive, Chemical, Civil, Electrical, Electronic, Electromechanical, Environmental Control, Industrial, Instrumental, Mechanical, Metallurgical, Nuclear, Petroleum, Scientific Data Processing)

Trade & Industrial — 17.00 00 00

17.01 Air Conditioning
17.02 Appliance Repair
17.03 Automotive Services
17.04 Aviation Occupations
17.05 Blueprint Reading
17.06 Business Machine Maintenance
17.07 Commercial Art Occupations
17.08 Commercial Fishing Operations
17.09 Commercial Photography Occupations
17.10 Construction & Maintenance Trades
17.11 Custodial Services
17.12 Diesel Mechanic
17.13 Drafting
17.14 Electrical Occupations
17.15 Electronics Occupations
17.16 Fabric Maintenance Services
17.17 Foremanship, Supervision, & Management Development
17.18 General Continuation
17.19 Graphic Arts Occupations
17.20 Industrial Atomic Energy
17.21 Instrument Maintenance, Repair
17.22 Maritime Occupations
17.23 Metalworking
17.24 Metallurgy
17.26 Personal Services
17.27 Plastic Occupations
17.28 Public Services, Occupations
17.29 Quantity Food Occupations
17.30 Refrigeration
17.31 Small Engine Repair/Internal Combustion
17.32 Stationary Energy Sources Occupations
17.33 Textile Production & Fabrication
17.34 Leatherworking
17.35 Upholstering
17.36 Woodworking
17.99 Trade & Industrial/Other

[b] The Technical Education categories of 16.02 Agricultural Related Technology, 16.03 Health Related Technology, 16.04 Office Related Technology, 16.05 Home Economics Related Technology, and 16.06 Miscellaneous Technical Education have been omitted since there are no such programs in the Utah System of Higher Education that do not fit into other categories.

APPENDIX C

TWO-YEAR, ONE-YEAR, AND LESS THAN ONE-YEAR DEGREES, CERTIFICATES, AND DIPLOMAS OFFERED BY UTAH COLLEGES AND UNIVERSITIES

DECEMBER, 1974

52 **Utah Technical College/Salt Lake**
AAS
2-year diploma (96 hrs.)
1-year Certificate of Graduation (48 hrs.)
Certificate of Accomplishment - programs less than 48 hrs.

Utah Technical College/Provo
AAS
Certificate - completion of an approved course of study
No diplomas or specific types of certificates awarded

Dixie College
AS, AA, AAS
Certificate of Proficiency - (1 yr., 2 yr.)

College of Eastern Utah
AS, AA, AAS
Certificate of Completion - (1 yr., 2 yr.)

Snow College
AS, AA, AAS
Certificate of Completion - (1 yr., 2 yr.)

University of Utah
Numerous special certificates and diplomas, graduate and undergraduate (Catalog, p. 9)
AA, AS (none awarded during 1973-74, and only 50 awarded since 1965)
Associate Technical Aid Diploma

Utah State University
No associate degrees
Certificate of Completion (96 hrs.) in Colleges of Agriculture, Engineering, and Business.

Weber State College
Certificate of Completion (2 yrs.)
Certificate of Proficiency (1 yr.)
Certificate of Achievement - any portion of a prescribed program where a definite skill has been learned
AS, AA, AAS.

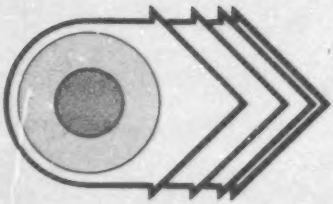
Southern Utah State College
Certificate of Completion (3,4, and 6 quarters)

Brigham Young University
AS, AA.

LDS Business College
Associate Degree (2 years)
Diploma Courses (1 year)
Certificate Courses (3 months)

Westminster College
None

Source: Institutional catalogs, 1974-75.



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